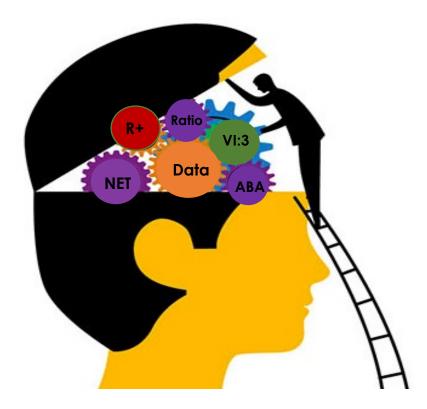
## It's All About You!



# **Teaching Tools**

Authors:

Pam Scharping, BCBA, LBA Janine Kesterson, Ph.D., BCBA-D, NCSP, LBA Peggy VonFeldt, BCBA, LBA Shana Kaplan, BCBA, LBA Nichole Hitchcock, BCBA, LBA



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# Pairing

When two items or activities are consistently experienced together, the perceived value of one will influence the perceived value of the other. A positive relationship between the teacher and student can be fostered with this process. Through repeated pairing sessions, connections are made between the reinforcers and the giver of the reinforcers. Pairing is ongoing and should be a regular part of teaching and play sessions.

## WHY IS IT IMPORTANT?

WHAT IS IT?

Pairing is used to establish yourself or the learning environment as a reinforcer. If a student won't come to the table, it makes teaching challenging. With adequate pairing, the student should begin to see interactions as fun so escape and avoidance behaviors are prevented. The student will begin to make choices that will maintain those interactions.

### WHEN CAN IT BE USED?

Pairing can happen any time and anywhere. It is useful when developing a relationship with students. If a student refuses to go to a place or activity, pairing can establish it as one where reinforcement is accessed. Pairing also assists in establishing instructional control, meaning the child listens to you and complies with instructions.

## HOW TO IMPLEMENT

- 1. 75% of every interaction should include pairing yourself with fun activities and known reinforcement. For example, if it takes 15 seconds for your student to answer three instructions, you should then spend 45 seconds pairing before giving the next instruction.
- 2. Pairing activities should be led by the student's motivation and should include 7 targeted pairing skills as seen in figure 1.
- 3. To start the pairing process, observe the student when he has free access to items that may be reinforcing and observe what he is drawn to.
- 4. Join the student by being within arm's reach.
- 5. Comment on what the student is doing using specific praise as long as the student is engaging appropriately (which may need to be specified before starting the procedure).
- 6. As the student engages in play, vocally mirror what the student is doing (repeat words/vocalizations).
- 7. Physically mirror the student as well by imitating actions the student makes.
- 8. Give brief descriptions of what the student is doing well. (The tiger is roaring).
- Initiate further actions by adding to the play or introducing additional items (Make a tiger walk over to the lion)
- 10. Create new activities with other items (put the tiger up to your ear like a phone and start talking)

## HOW TO IMPLEMENT, CONTINUED

#### 7 Pairing Skills from Lugo, et al., 2017

Fig. 1

Skill	Definition	Example			
Proximity	Adult stays within an arm's reach of the student	If the child was playing with blocks, was the therapist within arm's reach			
Praise	The adult uses specific praise to engage the student and point out pro-social play skills he is using.	Staff—"Awesome job stacking the blocks!"			
Reflect	Adult repeats words or vocalizations made by the student.	Child—"boom-boom" Staff—"boom-boom, crash!" Percent of opportunities			
Imitate	The adult imitates what the student is doing, being sure to imitate the desired behaviors and not give attention to problem behaviors.	Child opens a book Staff opens a book			
Describe	The adult verbally describes the desirable play skills the student is engaging in.	Staff—"You are driving the car!"			
Initiate	The adult offers tangible items to the student.	Rolling a toy car down their arm and placing it in the child's hand			
Create	The adult shifts to a new activity by changing an item's function.	Using an animal as a phone			



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# **Behavior Momentum**

### WHAT IS IT?

Also known as, High-Probability Command Sequence (HPCS) is an effective antecedent strategy that increases compliant behaviors by providing quick tasks they can easily do before presenting one that is new or more difficult for them. The faster the rate of reinforcement, the greater the behavioral momentum.

### WHY IS IT IMPORTANT?

When targeting behavior compliance, the students are more likely to perform **lowprobability** (difficult or non-preferred) skills because they are accessing reinforcement for **high-probability** (easy) behaviors. Frustration is reduced because the students are successfully performing easy skills. This increases the likelihood they will try new or difficult skills.

### WHEN CAN IT BE USED?

This strategy can be used prior to instruction of content or requests the student avoids or escapes. For students who are often offtask, using behavior momentum can help them stay attentive for longer periods of time. It can also shorten the amount of time it takes a student to respond to a request. It can also help improve motivation to engage.

## HOW TO IMPLEMENT

- 1. Identify skills the student is able to perform less than 50% of the time.
- 2. Identify high-p skills. Researchers define these as performing 80% or better.
- 3. Deliver 3-5 high-p requests rapidly just prior to administering a low-p request.
- 4. Deliver verbal or gestural praise (thumbs up, waving hands in the air) for each response to a high-p request.
- 5. Deliver the low-p request within 5 seconds of reinforcing a response to the last high-p request. Delaying the low-p request can decrease the likelihood of compliance.
- 6. The way a student responds to high-p requests may need to be altered to be consistent with the student's age and functioning level.
- 7. Generalize behavior with other instructors.
- 8. Program to fade out high-p requests slowly.
- 9. Record data on the target low-p behavior to monitor progress.



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## **Pre-Correction**



WHAT IS IT? An antecedent strategy where the teacher reminds or teaches the students the expectations or rules prior to the start of an activity to prevent an error.

## WHY IS IT IMPORTANT?

- More time is spent teaching positive behaviors and less time is spent giving students consequences and reacting to their failures.
- Students are provided with a new set of academic and social skills as opposed to being punished for their academic and social-skills deficits.

### WHEN CAN IT BE USED?

It requires teachers to anticipate the conditions under which errors or inappropriate behaviors are highly likely to occur, teach the student how to avoid the mistake, and then teach the student what is expected.

To view a short video, scan here:

## HOW TO IMPLEMENT



- 1. Identify the context and predictable behavior of concern. Example: Running in hallway.
- 2. Specify expected behaviors. Example: Walk in hallway.
- Modify the context. Example: Visual supports for hallway behavior posted in the hallway and by the classroom door to remind the students about walking in hallway with hands to self.
- 4. Conduct behavior rehearsals. Example: Students practice walking in the hallway and are reminded about hallway behavior prior to any transitions. For a student who runs frequently, give reminders or additional instruction using visual supports prior to transitioning.
- 5. Provide strong reinforcement for expected behaviors. If the new behavior isn't paired with reinforcement, the child might revert back to inappropriate behavior.
- 6. Prompt expected behaviors before performance. Prompting expected, appropriate behaviors reminds students what is expected of them. The teacher focuses her attention on appropriate behaviors. Providing reminders to students may increase the likelihood that the desirable behavior will occur again and improves the likelihood of success for the student.
- 7. Monitor the plan. Example: The teacher records whether or not the student who engages in hallway running is complying with her prompts. If, after a few days, the student does not appear to be responding to prompts, the teacher may alter the nature of the reinforcer and/or the schedule of the reinforcer.

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# **Interspersing Tasks**



WHAT IS IT? Interspersing Tasks is a teaching method where tasks of varying difficulty are presented so the frequent easy tasks help maintain student engagement each time a difficult task is presented.

## WHY IS IT IMPORTANT?

WHEN CAN IT BE USED?

The quick presentation of tasks helps increase engagement and decrease problem behavior. The access to higher rates of reinforcement for easy tasks reduces frustration and maintains attention as well. The students learn new skills in fewer trials or faster when mastered tasks are interspersed with new tasks because they are more willing to try the harder skills when they are feeling successful.

EFERENCES

Interspersal can be used during any academic task. It works best with discrete behaviors rather than long behavior chains or multi-step instructions. It helps build behavior compliance by giving easy tasks before and after a difficult one. When working on listener discrimination, interspersal can be used to assure students are listening to the specific instruction. When a student becomes uncooperative, interspersing the easy tasks can help bring the student back.

## HOW TO IMPLEMENT





- 1. Can be used with similar tasks (e.g., spelling mastered words with new words) or with dissimilar tasks (e.g., spelling unlearned words with labeling known animal pictures).
- 2. Determine what reinforcement will be given for correct responses (e.g., praise, tickles, edibles, material item, etc.).
- 3. Determine the ratio of mastered tasks with new or unlearned tasks. For example for every three mastered task items, introduce one new, or unlearned task or task step.
- 4. Another strategy is to place easier or mastered questions or equations at the beginning of a task and gradually increase task difficulty.
- 5. Provide more reinforcement for correct responses on the new, unlearned tasks, than for correct responses on the known tasks. Differentiate your praise, "Excellent! You're so smart!" If using tangible or edible reinforcers, it is recommended to deliver them for correct responses on new, unlearned task steps. It is recommended to continue to praise correct responses on mastered task steps, but save the most powerful reinforce for unlearned behaviors.
- 6. You have the flexibility to intersperse as needed for each student. The goal is to reduce errors, increase time on task, and to encourage learning new skills.

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## Functional Communication Training (FCT)



Functional Communication Training (FCT) is an evidence-based antecedent intervention used to select and teach a replacement alternative skill(s) that serves the same purpose as a problem behavior (Carr & Durand, 1985). The replacement skills allow the individual to contact reinforcement quicker, easier, and/or more consistently than the problem behavior. It is used with individuals who require a more intensive intervention approach because they continue to exhibit challenging behaviors even when prevention strategies are in place.

## WHY IS IT IMPORTANT?

FCT is a positive behavior support (PBS) used to reduce problem behavior and increase communication skills for those with language delays. These procedures can help individuals generalize appropriate communicative behaviors and access wants and needs in a socially acceptable way.

### WHEN CAN IT BE USED?

FCT is used to target many problem behaviors that might be interfering with a learner's ability to function in a variety of settings (Cooper, Heron, & Heward, 2019). This also may be used to improve generalization of new communicative behaviors to different communication partners, settings, or activities.

## HOW TO IMPLEMENT

- 1. Identify and operationally define a target problem behavior.
- 2. A Functional Behavior Assessment (FBA) should be conducted to help identify the most likely cause (function) of the problem behavior.
  - a. The first step is to use indirect assessments such as interviews, questionnaires, and record reviews to collect initial information about the problem behavior.
  - b. The second step of the FBA is to use direct assessments such as ABC observation data sheets that require direct observations of the problem behavior. A hypothesis about the function of the problem behavior and variables maintaining it is developed. The functions could include attention, escape, tangible, or automatic (sensory).
- 3. Based on the hypothesis of the function, replacement behaviors that are socially relevant and appropriate should be selected. These replacements can involve speech, gestures, signs, or pictures. Replacements should be easy to use and and simple to observe and reinforce by a variety of communication partners.
- 4. Use the same data collection method used in the FBA to evaluate the effectiveness of the intervention. This includes the antecedents and consequences maintaining the behaviors, prompts used, as well as frequency/rate of both the problem behavior and the replacement(s).

## HOW TO IMPLEMENT, CONTINUED

- 5. List situations and environments where the problem behavior is likely to occur. Set up multiple opportunities to teach the replacement behaviors and identify prompts necessary to perform the skills. Make certain that all of the child's new communicative requests are honored.
- 6. Create a plan for extinction or reduction of the problem behavior while reinforcement is used for the replacement behavior. An initial spike in the problem behavior is possible, but with consistency it fades.
- 7. After the student learns to use the replacement behaviors, create opportunities for generalization to people and environments.
- 8. Observe regularly to make sure staff implement FCT consistently.
- 9. Fade prompts as the student learns to use the replacement behavior. Begin thinning the schedule of reinforcement by allowing more time between the new behavior and reinforcement and/or requiring more instances of replacement behavior before reinforcing.



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## **Direct Preference Assessment**



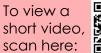
WHAT IS IT? Identifies objects, items, or activities that are reinforcing or have been reinforcing in the past for individual learners. Direct Assessments are more accurate when compared to indirect assessments due to testing vs. asking.

## WHY IS IT IMPORTANT?

Preference assessments identify what a person prefers. It also helps determine the preference value (high vs. low), and Identifies conditions under which those preference value changes. Using an assessment gives direct feedback from the student's perspective. This is important because a reinforcement program will not be successful unless the learner is highly motivated by the reinforcers.

### WHEN CAN IT BE USED?

When students do not respond to rewards or cannot express what they would like to work for, directly assessing current preferences can help. Sometimes students seem to have no motivators and this can help find some. When a student is disinterested in school work, following directives, rules, expectations, etc., identifying new reinforcers may help with motivation. This assessment can be used as an ongoing part of a Behavior Intervention Plan (BIP).





1. Select 6-8 items to use for the assessment.

2. Make a data sheet.

**EFERENCES** 

2

3. When doing assessments stick with food with food, drinks with drinks, tangible items with tangible. Avoid intermixing type of items.

**HOW TO IMPLEMENT** 

- 4. If using tangible items set a time limit for minimum and maximum time to manipulate or play with item.
- 5. Single-Stimulus (Successive Choice)- target stimuli across all sensory systems. Present each item at a time in random order. Record student's reaction to each item. Present each item several times (2-5). Record yes/no, frequency, or duration.
- 6. Forced Choice- Randomly assign the stimuli numbers from 1-8 and write the names on the data sheet. Have items readily available but out of reach of your participant. Present two items or activities simultaneously. All items are paired systematically with every other item in a random order to ensure completeness. For each pair of items, the individual is asked to choose one.
- 7. Multiple Choice- Provide an array of items. Rank order what the student engages in first and the time spent with the item. You can choose to remove the item once done or rearrange the array of items to see if student chooses the same again.
- 8. The most frequently selected item or most time spent with an item will likely be your most potent reinforcer.
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### Indirect Preference Assessment WHAT IS IT?



A survey that identifies objects, items, or activities that are reinforcing or have been reinforcing in the past for individual learners.

## WHY IS IT IMPORTANT?

This helps identify what a person prefers and what the preference value is (Highly preferred or low). The conditions under which those values change can be identified through an assessment as well. Using an assessment gives direct feedback from the student's perspective. This is important because a reinforcement program will not be successful unless the learner is highly motivated by the reinforcers.

### WHEN CAN IT BE USED?

Anyone can administer the survey or the student can take it independently. When students do not respond to rewards or cannot express what they want to work for, assessing current preferences or motivators can help. When a student is disinterested in school work, following directives, rules, expectations, etc., identifying new reinforcers may help with motivation. This assessment can be used as an ongoing part of a Behavior Intervention Plan (BIP).

## **HOW TO IMPLEMENT**

- Interview- Ask the participant open ended, choice format, and rank ordering questions. 1. Ask parents, family members, teachers, staff and other caregivers if the child cannot tell you. It is also a good idea to verify the information the caregiver
- 2. gave you.
- 3. Choice-Offer the student a choice before starting a task. "When you finish what do you want to do?" You can use verbal responses or have them picked from pictures or a list.
- 4. Rank Order- have participants rank items on a list from most preferred to least preferred.
- 5. Observation-Place the child in an environment with many potential reinforcers available and observe him. The item the student chooses might serve as reinforcers.

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## Promise Reinforcer



WHAT IS IT? Show the learner a preferred item prior to presenting the instruction. The Promise Reinforcer establishes motivation to comply with the requested transition. It works to offset the value of enagging in maladaptive behavior to avoid or escape the task

### WHY IS IT IMPORTANT? WHEN CAN IT BE USED?

Promise reinforcers help increase compliance during transitions. They reduce frustration when aiving up highly preferred activities by having another preferred item or activity available. Pairing non-preferred areas with reinforcement helps to reduce escape or avoidant behaviors.

When it is time to transition to a less preferred activity or area, a promise reinforcer can increase motivation for students that display patterns of problem behavior (i.e., crying, dropping to the around, running away.)

## **HOW TO IMPLEMENT**





- Determine a reinforcer that the student will want at that moment. 1.
- 2. Hold the reinforcer so the student can see it but do not make it too obvious. (You don't have to wave it around and say "Look what I have, etc".)
- Give the instruction (Ex: "It's time to \_\_\_\_\_", or "Come here we're going \_\_\_\_\_"). 3.
- 4. If student follows the direction, deliver the reinforcer. If using an activity/material reinforcer, a timer or other cue will need to be used to indicate when the activity is over.
- 5. If the student doesn't follow through on the first direction, the reinforcer isn't given, but the direction needs to be followed. Prompt the student as needed to complete activity.
- 6. Initially practice short distances frequently throughout the day. For example, put chairs a few feet away and practice going from chair to chair. Lengthen the distance over time.
- Fade the promise reinforcer once the student masters criteria set by the teacher. 7.
- 8. When giving up a preferred activity/item, the promise reinforcer can be use to increase compliance. The promise reinforcer should match the value of the current reinforcer. For example, hold up small edible and say, "Give me car." If the car is given after the first directive, deliver the reinforcer. Begin this procedure with a less valued reinforcer and move towards higher valued reinforcers over time. It is less effort to give up items of less value. When compliance is paired with reinforcement, desirable behavior will increase.

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# Good Behavior Game



The Good Behavior Game (GBG) is a user-friendly, preventative intervention that is applied class-wide. The purpose is to reduce disruptive behaviors during academic periods while increasing on-task behavior. The components of the GBG are based on sound behavioral principles (i.e., differential reinforcement, clear expectations, monitoring of behavior, and frequent feedback) that are not age limited (Mitchell, et al., 2015).

## WHY IS IT IMPORTANT?

### WHEN CAN IT BE USED?

Easy-to-implement intervention with demonstrated effectiveness in decreasing problem behavior (Vargo, et al., 2020). It increases instructional time as the teacher can focus on teaching instead of problem behavior. There is high acceptability for the intervention among teachers and students.

It is typically implemented during a 30minute academic period such as reading, math, group instruction, silent reading, etc. This intervention is proven to be effective from pre-school age through adulthood.

## HOW TO IMPLEMENT

- 1. Identify and define what behaviors are disruptive (e.g., call outs, talking to other students, name calling, out-of-seat, throwing objects). Choose 2-3 behaviors that are most problematic. Identify and define what on-task behaviors you want to occur (e.g., looking at the teacher during lecture, writing answer to math worksheet).
- 2. Identify reinforcers that will be valuable to the students. Have the students fill out a reinforcer survey by rank ordering their preferences (e.g., free time, school supplies, edibles, five extra minutes at recess, homework passes, extra credit/bonus points). This may increase buy-in to the game.
- 3. Determine when the Game will be played. The teacher has flexibility of choosing what activities and how often the game will be played.
- 4. Gather baseline data to determine the criterion for earning a reward. For example, when students are divided into groups, if you count on average five problem behaviors, set your criterion slightly below the current average (e.g., 4 or less).
- 5. Prior to implementing the Good Behavior Game, explain the rules of the game to the class. For example, raise your hand and wait be called on; keep hands, feet, and objects to self; remain in seat. Tell the students the criterion for earning a reward.
- 6. Divide the class into equal teams (e.g., 2 or more). Balance the teams to ensure each team has a chance to succeed. If a team breaks a rule, the teacher reminds the team the behavior he/she would like to see instead. For example, if a student on Team 2 calls out an answer instead of raising his hand, the teacher could respond by saying, "Team 2, I am looking for hand's raised when answering questions."

## HOW TO IMPLEMENT, CONTINUED

- 7. Start the Game, Set a Timer, Record Data, and REWARD: Set a timer or clearly state when the game will start and end. For secondary learners, it may be more age respective to call the game a "competition". Record data by adding a tick mark next to the team's name when a rule is broken. We want low scores! The teams that meet criterion, earn a reward.
- 8. It is important not to single out one student's behavior when playing the Good Behavior Game. Focus on what behaviors you want the students to engage in instead, and remain neutral when giving a team a mark for breaking a rule.
- 9. Keep record of the teams that earn rewards. If you observe that a team doesn't often earn rewards, investigate the barriers. Team members may need to be split up and changed to a different team or a particular student may need an individualized reinforcement program that doesn't penalize the rest of the group.
- 10. Have fun and Praise, Praise, Praise! This game is meant to be fun for all involved, including the teacher. Be enthusiastic and provide behavior specific praise by telling students what behaviors they are doing well. For example, "Wow! You are sitting there so quietly." This will increase the probability of those behaviors increasing in the future.

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## **Schedules of Reinforcement**



WHAT IS IT? Schedules of reinforcement are rules that describe how and when particular behaviors will get access to reinforcement. Continuous schedules (CRF) provide reinforcement every time the specified behavior occurs. Intermittent schedule (INT) reinforce some not all occurrences of the specified behavior. There are four basic intermittent schedules: fixed ratio (FR), variable ratio (VR), fixed interval (FI), and variable interval (VI). Ratio schedules provide reinforcement after a number of correct responses and interval schedules provide reinforcement after an amount of time has passed plus a correct response.

## WHY IS IT IMPORTANT?

**CRF** is important for teaching new skills by creating an association between a behavior and responses it produces. **INT** is important for moving a continuously reinforced behavior towards more natural reinforcement.

Use **CRF** after every response when first teaching a skill. Intermittent schedules are used to maintain skills after steady responding with **CRF**. Fixed schedules with a set amount are used to shape behaviors while variable schedules are helpful for maintaining behaviors with an average amount of reinforcement.

WHEN CAN IT BE USED?

## **HOW TO CALCULATE & IMPLEMENT**

STEPS TO CALCULATE:

- 1. Select and define the problem behavior.
- 2. Identify if the behavior should be measured by ratio or interval data.
- 3. Collect baseline data on the problem behavior.
- 4. Select and define the replacement behavior to reinforce.
- 5. Identify the schedule of reinforcement to use (CRF, FR, VR, FI, VI).
- 6. Identify the frequency in which reinforcement will be delivered from baseline data.
- 7. Identify preferred reinforcers to deliver based on an indirect or direct preference assessment.
- 8. Identify during which activities the reinforcement will be given.
- 9. Train staff on implementation and monitor treatment fidelity.
- 10. Make data-based decisions for when to fade the schedule type or frequency.

#### STEPS TO IMPLEMENT:

REFERENCES

- 1. Prepare a variety of food and objects from a list of identified preferences to have ready.
- 2. Refer to data to identify the current schedule of reinforcement.
- 3. Prepare a system to prompt how often to deliver reinforcement (ie: circle the number of boxes on the data sheet to align with the schedule).
- 4. Follow the schedule of reinforcement (either a fixed or varied # or amount of time).
- 5. Deliver a mixture of food and objects to prevent satiation on one item or type of item.
- 6. Deliver vocal praise with the delivery of reinforcement to condition praise as a type of reinforcement to fade to in the future.
- 7. Track the # of reinforcers delivered and # of problem behaviors displayed.
- 8. Transfer the data to the graph in order to identify when the schedule can be faded.

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To view a short video, scan here:

# Differential Reinforcement



Differential reinforcement (DR) is the reinforcement of one response while withholding reinforcement for another one. It is designed to reduce the occurrence of problem behaviors while reinforcing more desirable behaviors. A variety of differential reinforcement strategies can be used to increase positive behaviors and decrease or eliminate interfering behaviors. There are five main ways to use DR: DR of alternative behavior (DRA), DR of incompatible behavior (DRI), DR of other behavior (DRO), DR of low rates (DRL), DR of high rates (DRH).

## WHY IS IT IMPORTANT?

Interventions that are based on punishment and extinction can lead to further problem behaviors. Differential reinforcement leads to learning more appropriate alternative behaviors that can lead to reinforcement.

### WHEN CAN IT BE USED?

Differential reinforcement is used when desired behaviors need to be reinforced and when problem behaviors need to be reduced or stopped. Differential reinforcement is used to change these behaviors without punishment.

**HOW TO IMPLEMENT** 

#### 1. Identify the problem behavior

- A. Define the target behavior
- B. Gather information on the following to help determine possible functions:
   I. Frequency, duration, intensity, topography, location
- 2. Determine the function of the problem behavior with functional behavior assessment (FBA)
- 3. Identify data collection measures and collect baseline data
- 4. Select a differential reinforcement procedure
  - A. DR of alternative behavior **(DRA)** Ex: reinforce asking for a break to replace hiding under the table.
  - B. DR of incompatible behavior **(DRI)** Ex: reinforce carrying a bin of books in the hall instead of tearing artwork off the wall.
  - C. DR of other behavior (DRO) Ex: reinforce student every 5 minutes if not hitting.
  - D. DR of low rates of behavior **(DRL)** Ex: reinforce 5 minutes between times out of seat, after previously reinforcing every 4 minutes. This is different than DRO because it is reinforced after the occurrence of the problem behavior.
  - E. DR of high rates of behavior **(DRH)** Ex: reinforce writing three spelling words per minute when previously was reinforced for 2 per minute.

#### DRA:

- 1. Select an alternative the student can already do and that requires less effort than the problem behavior
- 2. Select effective reinforcers
- 3. Consistently apply reinforcement
- 4. Apply reinforcement immediately
- 5. Withhold reinforcement of problem behavior

## HOW TO IMPLEMENT, CONTINUED

DRI: Same as DRA except the alternative and problem behavior cannot occur concurrently.

#### DRO:

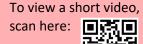
- 1. Interval
  - a) Fixed interval: determine fixed intervals of time to use, and plug it into the timer. Variable interval: determine random intervals of time to use, and use a timer
  - b) Reinforce at the end of the interval if problem behavior did not happen **during** the interval
  - c) Reset the timer after a problem behavior happens
- 2. Momentary
  - a) Fixed momentary: determine fixed intervals of time to use, and plug it into the time. Variable momentary: determine random intervals of time to use, and use a timer
  - b) Reinforce if the problem behavior did not happen at the end of the interval.
  - c) Reset the timer after a problem behavior happens

#### DRL:

- a) Determine average interval of time between occurrences of problem behavior or average number of responses per interval
- b) Select time interval one step longer than average or one less response per interval.
- c) Reinforce after occurrence of problem behavior if the selected interval or number was met.

#### DRH:

- a) Determine average interval of time between occurrences of desired behavior or average number of responses per interval
- b) Select time interval one step **shorter** than average or one **more** response per interval.
- c) Reinforce after occurrence of problem behavior if the selected interval or number was met.



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## **Simultaneous Prompting**



#### WHAT IS IT?

An errorless teaching procedure. A variation of Constant Time Delay procedure. The controlling prompt is always delivered at a zero-second delay to reduce errors. Probe sessions are conducted prior to teaching sessions to check for skill mastery.

## WHY IS IT IMPORTANT?

Simultaneous prompting is used to teach new skills to students. It helps reduce errors and teaches skills more efficiently. The primary advantage, is that a learner doesn't need to have the prerequisite skill of waiting for a prompt if he/she cannot independently emit the behavior.

### WHEN CAN IT BE USED?

It is typically used to teach discrete behaviors (one-step or simple skills.) Chained skills can also be taught with this procedure with the support of a task analysis that clearly outlines each step (e.g., dressing, purchasing, vocational skills, etc.)







- 1. For each trial, give the instruction and immediately give the controlling prompt. A controlling prompt is any prompt that consistently leads to a correct response.
- 2. The controlling prompt is always delivered at a 0-second delay, or immediately after the target stimulus (cue) is delivered to prevent or reduce errors from occurring.
- 3. Immediately following the prompted correct response, provide reinforcement. For example, if a teacher is instructing a child to wave goodbye, the teacher might say, "Wave to your mom!" and immediately provide a full physical prompt to ensure the child waves. The teacher then provides the child with his predetermined reinforcer.
- 4. "How does the teacher know the students are learning anything?" To answer that question the teacher conducts test trials or probes immediately before each instructional session to test mastery of targeted skills previously taught.
- 5. A probe session uses no prompts. The teacher simply goes through and quizzes each target to test whether or not the student has acquired the material. Instruction ends when the learner reaches a criterion level (e.g., 100% correct for 3 consecutive days) during probe sessions.
- 6. It is a less complicated procedure for teachers to use due to fewer response variations (e.g., unprompted corrects and unprompted incorrects are not possible) and fewer prompt variations (e.g., no need to vary prompt intrusiveness or delay).

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## Most-to-Least & Least-to-Most Prompting



#### WHAT IS IT?

An errorless learning teaching procedure. Most-to-Least Prompting (MTL): Uses a high level of support (prompting) when teaching a new skill, and then systematically fades towards less restrictive prompts as the learner masters the skill. Least-to-Most Prompting (LTM): This is the opposite of MTL prompting. The teacher gives the participant an opportunity to perform the response with the least amount of assistance on each trial and moves to the next prompt in the hierarchy if the student performs an incorrect response.

### WHY IS IT IMPORTANT?

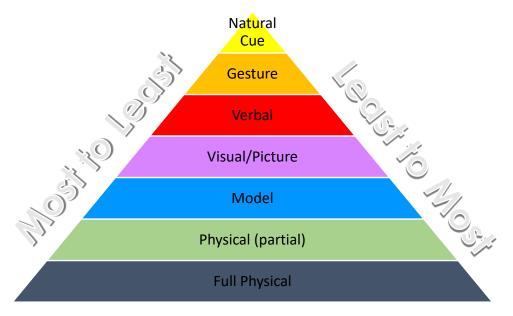
Prompting is used to teach new skills and reduce errors. This provides a better opportunity to provide reinforcement due to fewer errors, and consequently, leads to reduced frustration for the student.

### WHEN CAN IT BE USED?

You can use MTL and LTM prompting when teaching discrete (e.g., short, single responses) and chained behaviors (e.g., a series of behavior that make up a complex skill). A task analysis will be required for chained (multi-step) behaviors.

## HOW TO IMPLEMENT

## **Prompt Hierarchy**



## HOW TO IMPLEMENT, CONTINUED

- 1. Gain attention prior to delivering the cue.
- 2. Wait for the learner to respond if using LTM.
- 3. Allow 3-5 seconds of response time between prompt levels.
- 4. Respond to correct responses with reinforcement.
- 5. Gradually fade out prompts when students demonstrate independence.
- 6. Respond to incorrect responses by moving up the prompt hierarchy.
- 7. Avoid repeating the same prompt more than once. For example, don't give 4 gestural prompts on the same teaching step. Instead, give one gestural prompt if the student doesn't respond, move to the prompt level (e.g., partial physical prompt).
- 8. Avoid overusing verbal prompts. After giving one verbal prompt, silently move to the next prompt level in the hierarchy. Too much talking can confuse and frustrate the learner. Also, verbal prompts are difficult to fade and dependency on the instructor can occur with over usage of verbal prompts.

### Which one do I use?

Prompting hierarchy is individualized to the learner.



To view a short

- MTL is preferable if errors have been found to impede a child's learning or to increase problem behavior.
- MTL is preferable when a child's learning history is unknown.
- LTM may be used for students who make fewer errors and show rapid acquisition when using LTM.
- LTM may be preferable to those who do not like to be touched and benefit from modeling over full physical prompts.
- Consider the task being taught, for example, the learner may readily answer questions with LTM but require MTL when learning to button a shirt.

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# Time Delay



#### WHAT IS IT?

An errorless teaching procedure. An interval of time is systematically inserted between the cue/signal and the controlling prompt. There are two types of time delay procedures, Constant Time Delay and Progressive Time Delay.

## WHY IS IT IMPORTANT?

Time delay is used to teach new skills to students. It helps reduce errors and teaches skills more efficiently.

### WHEN CAN IT BE USED?

It is typically used to teach discrete behaviors (one-step or simple skills.) Chained skills can also be taught with this procedure with the support of a task analysis that clearly outlines each step (e.g., dressing, purchasing, vocational skills, etc.)

HOW TO IMPLEMENT





- 1. Define the target skill that you want to teach.
- 2. Choose a controlling prompt. Use the least intrusive prompt needed to teach the skill.
- 3. Initially, both CTD and PTD procedures start with a 0-second time delay after the presentation of the discriminative stimulus (cue) and the prompt. For example, immediately after the teacher says, "What is this?" while showing a picture of car, the instructor gives the student the correct answer "car".
- 4. After a pre-specified number of trials (e.g., a session typically comprising of 10 trials when using discrete trial training), the prompt is delayed.
- 5. When using CTD the prompt delay remains the same during all teaching sessions (e.g., 3-5 seconds). When using PTD the prompt delay is gradual and systematic. For example, the teacher would first wait 1 second, then 2 seconds, gradually extending the time delay in 1-second intervals. The time delay can be extended after a specific number of presentations, after each session, after a specific number of sessions, or after meeting a performance criterion.

#### Example: Delay by session for CTD and PTD

Session	CTD Delay	PTD Delay
	0 sec	0 sec
2	3 sec	1 sec
3	3 sec	2 sec
4	3 sec	3 sec
5 and remaining sessions	3 sec	4 sec

## HOW TO IMPLEMENT, CONTINUED

- 6. To avoid errors, tell the student to wait if they need help answering the question correctly. It is better to help the student, then to allow them to practice errors. If the child has difficulty waiting for a prompt, PTD may be a better choice as a prompting strategy because of the gradual fade of prompts.
- 7. Reinforce correct responses only.
- 8. Record data to monitor progress and to decide when to fade out time delayed prompts.

#### Example: Trial during an initial session of CTD or PTD to teach naming of objects

Prompt Level	Teacher Behavior	Learner Behavior and Consequence	Learner Behavior and Consequence	Learner Behavior and Consequence
Prompted with 0- second delay. (No opportunity for independence.)	"What is this? Car." while showing picture of car.	Correct Response: Repeats teacher's response, "Car" (provide reinforcer)	Incorrect Response: Teacher corrects error and says "car" (no reinforcement)	No Response: Ignore and provide no reinforcement

Example: Trial during an initial session of CTD or PTD to teach naming of objects

Prompt Level	Teacher Behavior	Learner Behavior and Consequence	Learner Behavior and Consequence	Learner Behavior and Consequence
Independent	"What is this? Car." while showing picture of car. (Waits specified time; e.g., 3 seconds)	Unprompted Correct: "Car" (provide reinforcer)	Unprompted Incorrect: "Train" (remind to wait for prompt if s/he doesn't know the answer)	No Response (provide prompt)
Prompted	Same as above	Same as above	Prompted Incorrect: "Train" (no reinforcement)	No Response (ignore and provide no reinforcement)

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# Stimulus and Response Prompts

Prompts are delivered when teaching new responses in discrimination training. Prompts establish stimulus control (responding correctly to an instruction or question). Stimulus and Response prompts are "supplementary antecedent stimuli used to occasion a correct response in the presence of the natural discriminative stimulus that will eventually control the behaviors (2019, p. 403)." Good prompting procedures start with the identification of the smallest prompt needed to produce (evoke) a correct response.

### WHY IS IT IMPORTANT?

Prompting is an evidence-based strategy used to teach new skills and help the learner properly respond to an instruction (SD) by controlling the learners response.

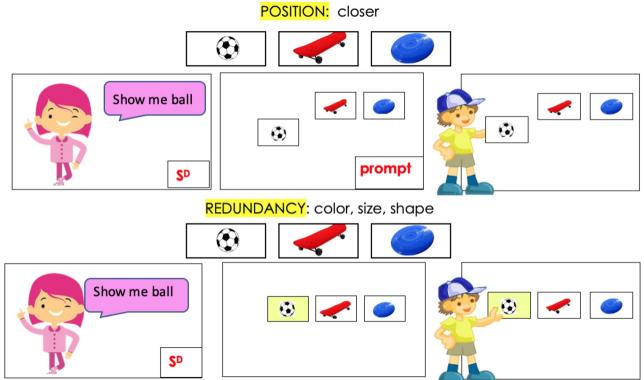
### WHEN CAN IT BE USED?

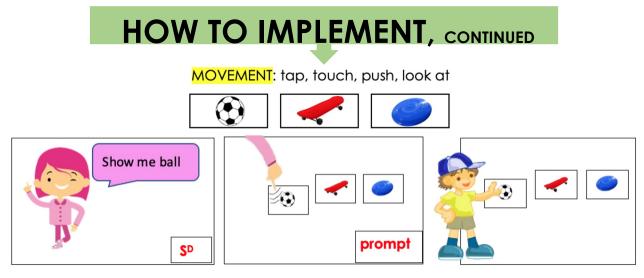
Prompting can speed up the learning process and help learners to successfully complete multi-step skills. They can also help a student to contact reinforcement more often when frustration tolerance is low.

## **HOW TO IMPLEMENT**

During instruction, provide the prompt before the response occurs to avoid errors. When the student gives the correct response, provide reinforcement. If the student gives the correct response independently, differentially reinforce.

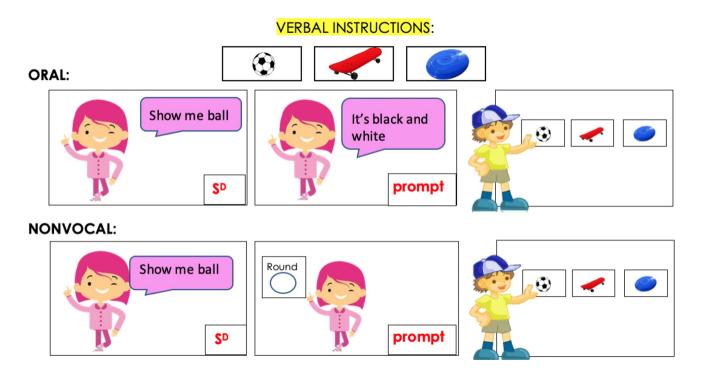
**Stimulus prompts** make the stimulus stand out more in order to evoke the correct response. There are three major forms: Position, Redundancy, and Movement.

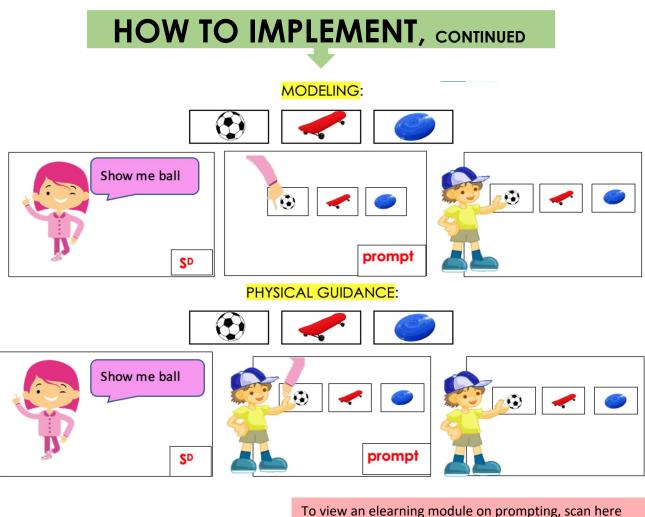




**Prompt fading:** There is a risk of prompt dependence when using prompts (Grow & LeBlanc, 2013). Therefore, it is important to plan for transfer of control from the prompt to the stimulus (SD) and the fading of prompts as soon as possible (Wolery & Gast, 1984).

**Response prompts** act on the learner response to evoke the correct response. There are three major forms: Verbal Instructions (oral and nonvocal), Modeling, and Physical Guidance





- and sign up.
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#### WHAT IS IT?

## Prompt Fading

A prompt is an stimulus used to elicit a correct response when it is paired with a discriminative stimulus (Cooper, et al., 2020). Prompts are used to help a student correctly perform a skill. Prompt fading is used to reduce the intensity, level, and timing of prompts used to assist with correct responding to avoid over-dependence. A plan to fade prompts should be made **before** the instruction of the skill begins.

## WHY IS IT IMPORTANT?

All prompts should be faded as soon as they are no longer necessary to evoke a correct response. If the prompts are removed too quickly the student may begin making mistakes. If they are removed too slowly, the student may become too dependent.

### WHEN CAN IT BE USED?

When a student consistently responds correctly with a prompt, the prompt level is reduced. In prompt fading, the data is monitored to decide how quickly or slowly to fade. If fading is too quick, return to the prompt where the student was successful (Cengher, et. al, 2018).

Most to Least Fading starts with the most intrusive prompts and gradually fades to less intrusive prompts.

 Use criteria set for changing prompts; when the student meets criteria for a set number of days, fade to the next level.

**Response fading** is where a form of the prompt for a learner response is made less intrusive. There are three types of fading: physical, time delay and proximity

**Physical** prompt fading decreases the level of intrusiveness using a prompt hierarchy. Example 1: if using hand over hand to select the correct letter, then fading would include moving to hand on forearm, hand on elbow, light touch, then shadowing. Example 2: if modeling the response (touch a picture of a dog), then fading may move from touching to a point nearly touching the card, then in the general area.

Time Delay prompt fading involves a gradual increase in the amount of time between the instruction  $(S^{D})$  and the prompt.

**Proximity** prompt fading involves an increase in space between the student and staff. For example, staff may sit/stand next to a student, then just behind the shoulder, behind the student, then a few feet away.

To view a short video, scan he	ere:





Cengher, M. & B, Farrell, N. & Fienup, D. (2018). A Review of Prompt-Fading Procedures: Implications for Effective and Efficient Skill Acquisition. Journal of Developmental and Physical Disabilities. 30. 155-173. 10.1007/s10882-017-9575-8.

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# **Operational Definition**

WHAT IS IT? Behavior is anything a person does. A behavior identified as needing to be changed is called a target behavior. Before this target behavior is analyzed, it needs to be clearly defined. An operational definition clearly and concisely describes what the the occurrence and nonoccurrence of the behavior looks like in a way that is observable, measurable, and repeatable. There are four components of an operational definition which include: label, definition, examples, non-examples. Target behaviors can be defined two ways: functionally (it's effect on the environment and topographically (the shape or form of the behavior).

## WHY IS IT IMPORTANT?

Each person working with a student needs to have the same definition of a behavior. Having the same definition can increase the validity and accuracy of data between observers, environments, and occurrences (Cooper, et al, 2020).

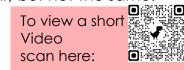
### WHEN CAN IT BE USED?

When writing IEP goals and objectives, defining behaviors assure everyone is working on the same behavior. When evaluating effectiveness of interventions, it is important that the same behavior is always being observed to measure changes in that behavior.

## **HOW TO IMPLEMENT**

#### 1. Label the behavior

- 2. Define the target behavior in objective terms Write a clear description of the behavior. An operational definition only includes behavior that is observable. Words such as aggressive, non-compliant, and refusal can be ambiguous, leaving interpretation to each individual. Objective terms would include descriptions that are clear to each observer such as leaving a red mark, tearing the paper, leaving the room without permission.
- 3. Develop examples and non-examples of the behavior Writing the examples and non-examples helps to clarify when the behavior is occurring or not occurring.
  - a. Examples should include the most typical instances of the behavior and less typical, but still included examples.
  - b. Non-examples include any behaviors that are similar, but not the same.
- 4. Put the definition, examples, and non-examples together to write the operational definition.



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 Cooper, J. O., Heron, T. E., & Heward, W. L. (2020). Applied behavior analysis (3rd ed.). Hoboken, NJ: Pearson.
 Hawkins, R. P., & Dobes, R. W. (1977). Behavioral definitions in applied behavior analysis: Explicit or implicit? In B. C. Etzel, J. M. LeBlanc, & D. M. Baer (Eds.), New directions in behavioral research: Theory, methods, and applications(pp. 167-188). Hillsdale, NJ: Erlbaum.
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nbreit, J., Ferro, J., Liaupsin, C. J., & Lane, K. L. (2007). Functional behavior assessment and function-based intervention: An effective practical approach. Prentice Hall: Upper Saddle River, NJ.



#### **OPERATIONAL DEFINITION**

**STUDENT:** Jim Halpert

DATE: 7/9/23

Target Behavior: Give it a <u>label</u>. Example: Off-task

Write the **definition** of a target behavior: Example definition of off-task behavior: Attending to activities other than direct instruction or instructor-led activities.

#### Examples:

- Laying head on desk
- Fidgeting with non-instructional materials
- Talking to peers

#### Non-Examples:

- Attending to work assigned
- Using materials for instructional activities
- Following classroom talking level expectation

Example of Complete Operational Definition of Target Behavior:

Off-task behavior refers to attending to activities other than direct instruction or instructor-led activities. This looks like lying head down on the desk, fidgeting with non-instructional materials and talking to peers. Non-examples include attending to work assigned, using materials for instructional activities and following the classroom talking level expectation.



#### **OPERATIONAL DEFINITION**

#### STUDENT:

DATE:

Operationally defining target behaviors contain 4 key components: Label, Definition, Examples and Non-Examples. The definition, should be:

1. **Objective:** This means they are measurable and have observable characteristics.

2. **Clear:** Should be distinct, explicit, obvious and clear so another person can read it and measure it.

Non-Examples:

3. **Complete:** It should include language that directs the observer in all situations, leaving little to judgment (i.e., examples and non-examples).

Target Behavior: Give it a label.

Examples:

Write the **definition** of a target behavior:

Example of Complete Operational Definition of Target Behavior:

## A-B-C Data



WHAT IS IT? ABC (3-term contingency) recording is a way to record observations on the events preceding and following a behavior, (for example, Zaira crawled under her desk during Math. Before this behavior, her teacher said, "get out your math book," (antecedent). After this behavior, the teacher showed her what she was working for and asked her to sit in her chair (consequence).

### WHY IS IT IMPORTANT?

### WHEN CAN IT BE USED?

It is important to identify what might be motivating or preventing a behavior from occurring. What happens after a behavior will either reinforce it (cause it to happen more in the future) or will punish it (cause it to happen less in the future). What happens before the behavior will either prevent it or cause it.

С С

FERENC

ABC data is used to plan effective interventions and plans that lead to better behavior and better learning. In order to provide effective interventions, it is important to identify why a person is behaving in a particular way (function of behavior). This can also be used to plan effective academic interventions as well.

To view a

short video scan here:

HOW TO IMPLEMENT

ABC data can be taken in a variety of methods and involves directly observing a student. ABC data forms have a three-column chart with Antecedent, Behavior, and Consequence labels for each column. While directly observing a student, record a behavior when it occurs. Record what happens after the behavior in the "consequence" column, then complete the "antecedent" column with what happened right before the behavior occurred. Other parts of the form may include labeling the date and time, who the observer is, and what the setting was. After gathering this information, more specific data can be taken on behaviors identified through the ABC form. **Example:** 

STUDENT	Tackson/Davís		SETTING Classroom	
DATE/TIME:	ANTECEDENT What happened before the behavior?	BEHAVIOR What did the student do?	CONSEQUENCE What happened next?	STAFF
9/12/22 9:13	Para said, "it's time for science" and showed him a picture of science room	Threw his iPad and screamed "NBC.com" 5 times.	Para-pick up your ipad and pointed to it Sat in his chair so he could not throw it	SK
9/12/22 9:41	Teacher "clean up your crayons and glue please"	crayons	Teacher gave him paper towel to clean glue. "Let's clean up together" he shook his head no	SK
9/12/22 9:45	Teacher-when you are done cleaning you can go outside	Wiped up the glue	"let's get your jacket!" helped him put his jacket on and walked him to the door.	SK

Hanley, G. P., Jin, C. S., Vanselow, N. R., & Hanratty, L. A. (2014). Producing meaningful improvements in problem behavior of children with autism via synthesized analyses and treatments. Journal of Applied Behavior Analysis, 47(1), 16-36..

Cooper J. O., Heron, T. E., & Heward, W. L. (2020). Applied behavior analysis (3rd ed). Upper Saddle River, NJ: Pearson Education, Inc.

Slubert     SetTine       DATE/TIME     ANTECDENI       Mind integrated before the behavior:     Wind integrated and ref       Mind integrated before the behavior:     Wind integrated and ref       Mind integrated before the behavior:     Wind integrated and ref       Mind integrated before the behavior:     Wind integrated and ref       Mind integrated and ref     Mind integrated and ref       Mind integrated and ref     Mind integrated and ref       Mind integrated and ref     Mind integrated and ref			AB-CRECORDING SHEET		2
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	DATE/TIME:	ANTECEDENT What happened before the behavior?	BEHAVIOR What did the student do?		STAFF INITIALS
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# Frequency and Rate Data MASN

WHAT IS IT? Frequency (count) recording is a way to measure the number of times a behavior occurs (for example, Zane got out of his seat 7 times). **Rate** recording is the frequency over a period of time (for example, Zane got out of his seat 7 times in 21 minutes, or once every 3 minutes).

## WHY IS IT IMPORTANT?

### WHEN CAN IT BE USED?

Frequency recording is the easiest form of data collection to do. It is a good tool to use when asking caregivers to keep track of a behavior.

If the behavior is tracked during sessions of differing lengths, the rate provides a more accurate picture of the behavior because it shows the frequency in even segments of time. Frequency and rate can be used when trying to increase or decrease a behavior with a clear beginning and end. It is best for behavior that happens for equal durations. It does not work for behaviors that occur for different durations, long periods of time, or at a rate too fast to count. It requires the student to be observed continuously.

## HOW TO IMPLEMENT



#### Frequency:

- 1. Clearly define the behavior so everyone is measuring the same thing and observe.
- 2. When the target behavior occurs, make a tally mark.
- 3. Add all the tally marks at the end of the observation. This is your frequency count.

#### Rate:

- 1. Clearly define the behavior so everyone is measuring the same thing and observe.
- 2. When the target behavior occurs, make a tally mark and write down the time.
- 3. Add all the tally marks at the end of the observation.
- 4. Divide the number of tallies by the total observation time to get rate.

	BEHA	/IOR TO	RATE= TOTAL TALLY/TIME					
_	DATE:	STAFF INIIALS	START TIME:	END TIME:	TALLY MARKS:	TOTAL TALLY:		RATE:
E S U	7/5/23	SLK	8:15	8:25		14	10	1.4 per minute
$\overline{\mathbf{O}}$	7/6/23	SLK	9:15	9:30	111 1111 1111 1111	18	15	1.2 per minute
Z	7/7/23	SLK	11:10	11:12	1111	4	2	2 per minute

Alberto, P. A., Troutman, A. C., & Axe, J. (2022). Applied behavior analysis for teachers (10<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Cooper J. O., Heron, T. E., & Heward, W. L. (2020). Applied behavior analysis (3rd ed). Upper Saddle River, NJ: Pearson Education, Inc.

#### RECORDING SHEET AND GRAPH EXAMPLES



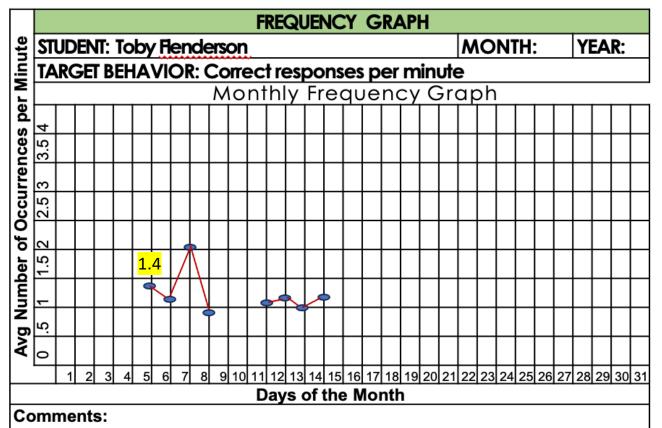
#### FREQUENCY AND RATERECORDING SHEET

**STUDENT:** Toby Flenderson

#### BEHAVIOR TO OBSERVE: Correct responses per minute

RATE=	
TOTAL TALLY	

							TIME
DATE:	STAFF INIIALS	start Time:	end Time:	TALLY MARKS:	TOTAL TALLY:	total Time:	RATE:
7/5/23	SLK	8:15	8:25	1111 1111 1111	14	10	1.4 per minute
7/6/23	SLK	9:15	9:30		18	15	1.2 per minute
7/7/23	SLK	11:10	11:12		4	2	2 per minute
7/8/23	SLK	8:12	8:22		9	10	.9 per minute
7/11/23	MDS	9:15	9:28		14	13	1.1 per minute
7/12/23	MDS	10:15	10:25	1111 1111 1	12	10	1.2 per minute
7/13/23	MDS	2:12	2:27		15	15	1 per minute
7/14/23	SLK	8:20	8:30		12	10	1.2 per minute
AVERA	AGE RAT	E: 98/85=1	.2 per min		98	85	1.2/MIN





35

#### FREQUENCY AND RATE RECORDING SHEET

STUDENT:

BEHAVIOR TO OBSERVE:							RATE= TOTAL TALLY TIME
	STAFF	START	END		TOTAL	TOTAL	
DATE:	INIIALS	TIME:	TIME:	TALLY MARKS:	TALLY:		RATE:
NOTES:							



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# **Cumulative Duration**



## WHAT IS IT?

This type of data collection measures the cumulative (total) amount of time a behavior occurs within a specified observation period, time a student is engaged or needs to engage in a task. It can be reported as total time or percentage of time.

## WHY IS IT IMPORTANT?

Collecting duration data is important for measuring if a target is happening for more or less time. It is used for behaviors that have a clear beginning and end or those that happen at such a high rate that it is not possible to get an accurate count.

## WHEN CAN IT BE USED?

Cumulative duration is used when the teacher wants to assess the total amount of time the student spends engaged in a behavior, how long it takes to complete a task, or how long a student is on/off task. It requires continuous observation.

**HOW TO IMPLEMENT** 

When collecting this type of data, make sure the behavior definition specifies the length of time that the behavior must occur in order to "count."

- 1. Clearly define the behavior and include how long the behavior needs to occur in order to count if needed and what the onset looks like if it a behavior that grows over time.
- 2. Start observing the student and start the timer when the behavior starts.
- 3. When the behavior ends, stop the timer.
- 4. Quickly record the duration of the behavior.
- 5. Repeat the process until the observation period is over.
- 6. Add up all the recorded times to get the cumulative (total) duration.
- 7. To get the percent of time, divide the total duration by the total time observed.

REFERENCES

Alberto, P. A., Troutman, A. C., & Axe, J. (2022). Applied behavior analysis for teachers (10<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Cooper J. O., Heron, T. E., & Heward, W. L. (2020). Applied behavior analysis (3rd ed). Upper Saddle River, NJ: Pearson Education, Inc.

## **RECORDING SHEET AND GRAPH EXAMPLES**



### TOTAL DURATION RECORDING SHEET

#### STUDENT: Kelly Kapoor

### BEHAVIOR TO OBSERVE: Time on task

DATE:	STAFF INITIAL	START TIME:	END TIME:	DURATION:	COMMENTS:
7/5/23	SLK	8:48	8:57	9 min	
7/5/23	SLK	11:10	11:16	6 min	
7/6/23	SLK	11:23	11:34	11 min	preferred activity
7/6/23	SLK	8:32	8:39	7 min	
7/7/23	MDS	11:17	11:25	8 min	
7/7/23	MDS	12:15	12:21	6 min	difficult task
7/8/23	MDS	8:39	8:51	12 min	
NOTES:		-	-	•	

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### TOTAL DURATION RECORDING SHEET

#### STUDENT:

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	STAFF	START	END		TOTAL	TOTAL	
DATE:	INIIALS	TIME:	TIME:	TALLY MARKS:	TALLY:		RATE:
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# Latency Recording



## WHAT IS IT?

This type of data collection measures the amount of time that lapses between an antecedent (e.g., teacher's directive) and when the student begins to perform a specified behavior.

## WHY IS IT IMPORTANT?

Collecting latency data is important because it provides a measure of the student's delay in engaging in behavior. It can be used to track response efficiency.

## WHEN CAN IT BE USED?

Latency Recording is used When the teacher wants to know the average amount of time it takes a student to respond in a specified manner, after a signal or prompt.

# HOW TO IMPLEMENT



- 1. Clearly define the behavior
- 2. Start observing the student and start the timer when the antecedent is given.
- 3. When the behavior starts, stop the timer.
- 4. Quickly record the time in seconds or minutes.
- 5. Repeat the process until the observation period is over.

#### **Examples:**

- Average time it takes student to be seated after a teacher request.
- Average time that it takes student to begin cleanup after request.
- Average time it takes student to disengage from other students once requested to move.
- Average time it takes for a student to begin eating once food is in front of him.

Alberto, P. A., Troutman, A. C., & Axe, J. (2022). Applied behavior analysis for teachers (10<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Cooper J. O., Heron, T. E., & Heward, W. L. (2020). Applied behavior analysis (3rd ed). Upper Saddle River, NJ: Pearson Education, Inc.

## **RECORDING SHEET AND GRAPH EXAMPLES**

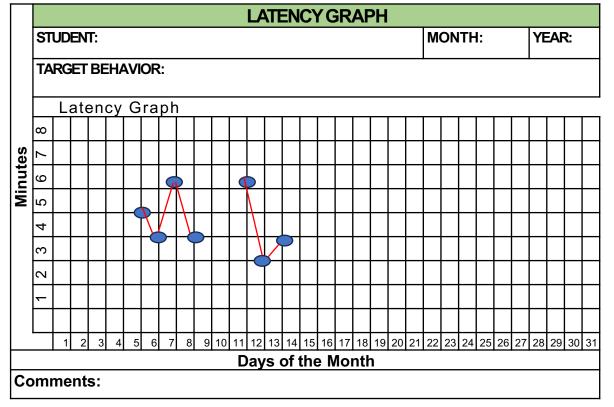
### LATENCY RECORDING SHEET

**STUDENT:** Stanley Hudson

### **BEHAVIOR TO OBSERVE:**

Starting math work when asked

DATE:	STAFF INITIALS	(Instruction) START TIME:	• •	LATENCY:	COMMENTS:
7/5/23	SLK	8:18	8:23	5 minutes	
7/6/23	SLK	8:51	8:55	4 minutes	
7/7/23	SLK	9:02	9:08	6 minutes	
7/8/23	SLK	8:22	8:26	4 minutes	
7/11/23	MDS	8:39	8:45	6 minutes	
7/12/23	MDS	9:01	9:04	3 minutes	
7/13/23	MDS	8:11	8:15	4 minutes	





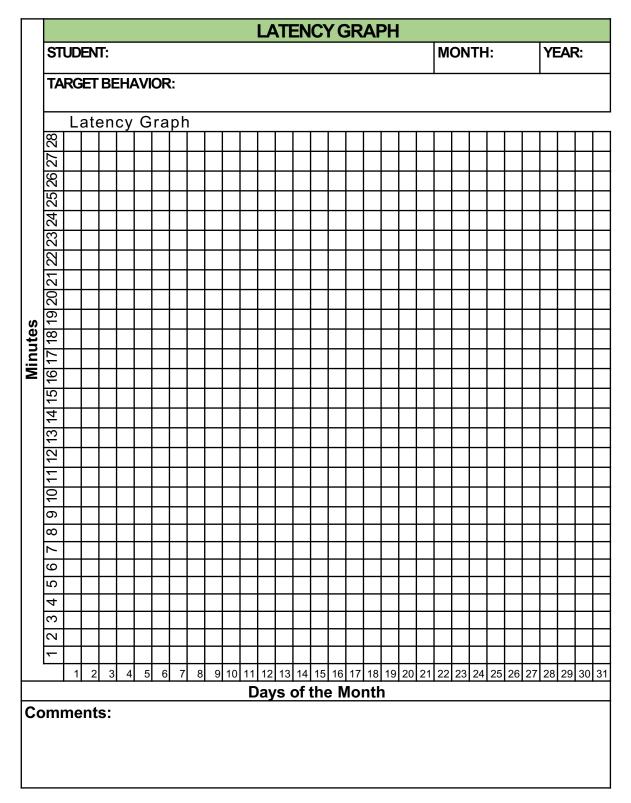
#### LATENCY RECORDING SHEET

#### STUDENT:

#### BEHAVIOR TO OBSERVE:

DATE:	STAFF INITIALS	(Instruction) START TIME:	(student responds) END TIME:	LATENCY:	COMMENTS:
NOTES:					
NUTES:					





# Partial Interval Recording **MASN**

Partial interval recording is an interval recording method. Observation times are broken into smaller intervals of time and marked with one symbol if the behavior is not observed and another symbol if it is observed.

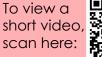
## WHY IS IT IMPORTANT?

Collecting partial interval data is important because it can measure low rate behaviors (those that occur infrequently). It also minimizes the observation of a student since it does not require continuous observation. It may overestimate the behavior. The shorter the interval, the more accurate the data will be, but more observation will be required by the observer.

## WHEN CAN IT BE USED?

Partial Interval Recording is used when the teacher does not have time to observe continuously but wishes to get an approximation of the degree to which a student engages in a low frequency behavior. It is best for measuring a behavior you want to DECREASE.

# **HOW TO IMPLEMENT**





- 1. Clearly define the behavior
- 2. Clearly define observation time and length of intervals.

\*Interval length should be set to approximate baseline rates of behavior (if behavior tends to occur every 10 minutes then 5-10 minute intervals makes sense).

- 3. Start observing the student and record whether the behavior was observed AT ANY TIME during the interval (+ or -).
- 4. Repeat the process until the observation period is over.
- 5. When the observation period ends, add up all the + marks (observed) divide that number by the total number of intervals. This is recorded as percentage of occurrences.

#### **Examples**:

- Percent of intervals in which student was in seat during reading.
- Percent of intervals in which student was writing in journal.
- Percent of intervals in which student was engaged in conflict with others at recess.
- Percent of intervals student engaged in rocking back and forth.

Alberto, P. A., Troutman, A. C., & Axe, J. (2022). Applied behavior analysis for teachers (10<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Cooper J. O., Heron, T. E., & Heward, W. L. (2020). Applied behavior analysis (3rd ed). Upper Saddle River, NJ: Pearson Education, Inc.

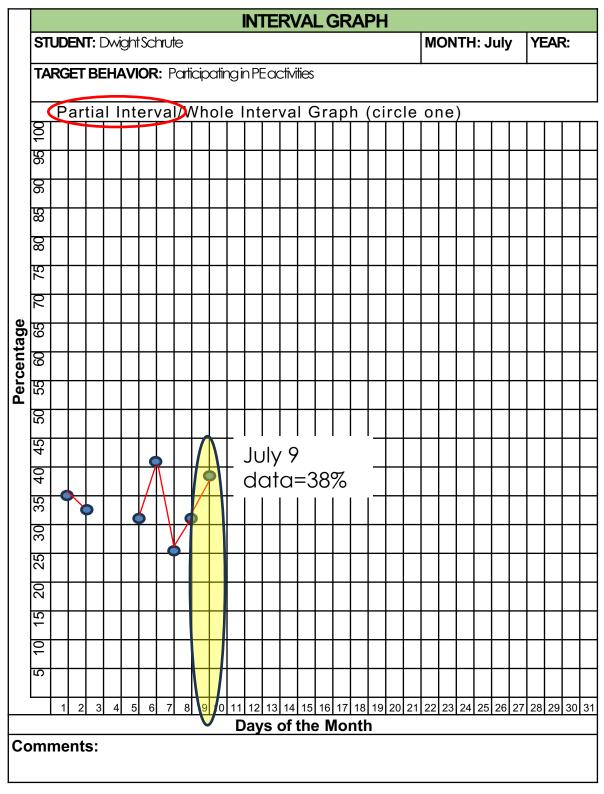
Tieghi-Benet, M. C., Miller, K., Reiners, J., Robinett, B. E. Freeman, R. L., Smith, C. L., Baer, D., Palmer, A. (2003). Encouraging Student Progress (ESP), Student/ team book. Lawrence, KS: University of Kansas.

Partial interval-mark if behavior happens in the interval, Whole interval-mark if behavior happens entire interval



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(+ or -)											INTERVALS =

START TIME:						INT	ERVAL	4			
	1	2	3	4	5	6	7	8	9	10	TOTAL+ / TOTAL
(+ or -)											INTERVALS =

START TIME:						INT	ERVAL	5			
	1	2	3	4	5	6	7	8	9	10	Total + / Total
(+ or -)											INTERVALS =



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## Whole Interval Recording WHAT IS IT?

Whole interval recording is a type of data collection that involves observing whether a behavior occurs or does not occur during the whole specified interval of time.

## WHY IS IT IMPORTANT?

Collecting whole interval data is important because it can measure behavior that is not easily counted, It is used for behavior that does not have a clear beginning and/or end, or behavior that occurs at such a high rate that it is difficult to keep count on it. Measuring ongoing behaviors that continue across intervals with this method can provide a summary of the duration.

## WHEN CAN IT BE USED?

Whole Interval Recording is best used for measuring behavior that you want to INCREASE. It provides an estimate of a behavior's duration as well as a snapshot of what context in which the behavior is most likely to occur. This method is only used if intervals are able to be observed from start to finish.

# **HOW TO IMPLEMENT**

- 1. Clearly define the behavior
- 2. Clearly define observation time and length of intervals. Interval length needs to be the same each time observations take place.

\*Interval length should be set to approximate baseline rates of behavior (if behavior tends to occur every 10 minutes then 5-10 minute intervals makes sense).

- Start observing the student and record whether the behavior was observed during the ENTIRE interval (+ or -).
- Repeat the process until the observation period is over. 4
- When the observation period ends, add up all the + marks (observed) divide that number by the 5. total number of intervals. This is recorded as percentage of intervals.

Examples: Attending to instruction Writina Working on a given assignment Cooperative Play

For Whole Interval data sheet and graphs with examples, see Partial Interval data sheets and examples and the second s

Alberto, P. A., Troutman, A. C., & Axe, J. (2022). Applied behavior analysis for teachers (10<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.

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## Momentary Time Sampling <a>TASN</a> WHAT IS IT?

Momentary Time Sampling is an interval recording strategy which involves observing a behavior and recording whether it occurs or does not occur at the very end of a specified interval.

## WHY IS IT IMPORTANT?

It is helpful when the teacher has little time to observe continuously but wishes to get an approximation of the degree to which a student engages in a high frequency behavior. Momentary Time Sampling minimizes the observation of the student (more than other interval recording techniques).

## WHEN CAN IT BE USED?

Momentary Time Sampling is used when the behavior you are looking at is not easily counted or it is difficult to tell exactly when the behavior begins or when it ends. This data is good for high rate behaviors (those that occur frequently). Keep in mind that this approximation of behavior tends to **under**estimate frequency of the behavior and **over**estimate the duration.





- 1. Clearly define the behavior
- 2. Clearly define observation time and length of intervals. Interval length needs to be the same each time observations take place.
- 3. Start observing the student and record whether the behavior was observed AT THE END of the interval (YES or NO).

**HOW TO IMPLEMENT** 

- 4. Repeat the process until the observation period is over.
- 5. When the observation period ends, add up all the YES intervals divide that number by the total number of intervals. This is recorded as percent of intervals.

#### **Examples:**

- Percent of intervals in which student was playing with others at recess.
- Percent of intervals in which student is cursing.
- Percent of intervals in which student was writing in journal.

For Time Sampling graph and example, see Partial Interval araph and example

REFERENC

Alberto, P. A., Troutman, A. C., & Axe, J. (2022). Applied behavior analysis for teachers (10<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.

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#### MOMENTARY TIME SAMPLING RECORDING SHEET

**STUDENT:** Phyllis Vance

\_\_\_\_\_

**OBSERVER:** David Wallace

SETTING: school building

BEHAVIOR TO OBSERVE: Walking beside adult in the hallway

INTERVAL LENGTH:	TOTAL OBSERVATION	TOTAL PERCENTAGE:
5 sec.	TIME:	50+40+60+50+70=270/5= <mark>54</mark>

#### (mark if the behavior is observed ATTHEEND of the interval)

START T	ME: 8:20										
		-	-	_	I	NTERVA	AL 1	-	-		
	1	2	3	4	5	6	7	8	9	10	TOTALYES / #of INTERVALS =
Yes/No	Y	N	Y	Y	N	N	N	Y	Y	N	5/10=50%
START TV	ME: 9:17									_	
					I	NTERV/	AL 2				
	1	2	3	4	5	6	7	8	9	10	TOTALYES / #of INTERVALS =
				× ×	× 1						INIEKVALS -

											INIERVALS =
Yes/No	N	Ν	Ν	Y	Y	Ν	Ν	Y	Y	Ν	-
163/110											4/10=40%

START TIME: 10:06 **INTERVAL 3** TOTALYES / #of 2 9 1 3 4 5 6 7 8 10 **INTERVALS =** Y Y Y Ν Ν Y Y Ν Υ Ν Yes/No 6/10=60%

#### START TIME: 11:35

	1	2	3	4	5	6	7	8	9	10	TOTALYES / #of INTERVALS =				
Yes/No	Y	Ν	Y	Ν	Ν	Ν	Y	Y	Y	Ν	5/10=50%				
START TV	ME: 12:42	2			I	NTERVA	AL 5								
	1	2	3	4	5	6	7	8	9	10	TOTALYES / #of INTERVALS =				
Yes/No	Y	Y	Y	Ν	Y	Ν	Y	Ν	Y	Y	7/10=70%				



### MOMENTARY TIME SAMPLE RECORDING SHEET

#### STUDENT:

0.022		
DATE:	OBSERVER:	SETTING:
<b>BEHAVIOR TO O</b>	BSERVE:	
INTERVAL LENGTH	ł:	TOTALOBSERVATION TIME:

#### TOTALOBSERVATION TIME:

#### (mark if the behavior is observed ATTHEEND of the interval)

START TIME:						IN	TERVAL 1				
	1	2	3	4	5	6	7	8	9	10	TOTALYES/ TOTAL
yes/no											INTERVALS =

START TIME:						IN	TERVAL 2	2			
	1	2	3	4	5	6	7	8	9	10	TOTALYES/ TOTAL
yes/no											INTERVALS =

START TIME:						IN	TERVAL 3	3			
	1	2	3	4	5	6	7	8	9	10	TOTALYES/ TOTAL
yes/no											INTERVALS =

START TIME:						IN	TERVAL 4	L			
	1	2	3	4	5	6	7	8	9	10	TOTALYES/ TOTAL
yes/no											INTERVALS =

START TIME:						IN	TERVAL 5	5			
	1	2	3	4	5	6	7	8	9	10	TOTALYES/ TOTAL
yes/no											INTERVALS =

## Permanent Product Recording WHAT IS IT?

Permanent Product Recording is used to measure tangible items or environmental effects that result from a behavior. It measures behavior after it has occurred.

## WHY IS IT IMPORTANT?

Permanent products are important because they allow staff to do other tasks as the product is still available to be observed once completed. This type of measurement may be more accurate, complete, and continuous than other methods. It is best for behaviors that occur at inconvenient or inaccessible times and places.

## WHEN CAN IT BE USED?

Permanent Product Recording is used when the teacher does not have time to observe continuously but wishes to get an approximation of the degree to which a student engages in a low frequency behavior. It should not be used when moment-to-moment treatment decisions must be made.

# **HOW TO IMPLEMENT**

- 1. Clearly define the behavior or product
- 2. Clearly define when the observation will occur.
- 3. Once the task or behavior is complete, record the data.

#### **Examples:**

- Tests
- Writing Samples
- Work boxes
- Making a bed
- Sweeping the floor
- Any activity where a product can be saved, evaluated and compared
- Number of assignments turned in

Alberto, P. A., Troutman, A. C., & Axe, J. (2022). Applied behavior analysis for teachers (10<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.

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# Per Opportunity Recording

Per Opportunity Recording is used to measure how often a targeted behavior occurs among the opportunities given to the person to perform it. It is typically measured as an average per session.

## WHY IS IT IMPORTANT?

Many IEP goals include a percentage as part of the measurement. Per opportunity data provides a percent of occurrence for identified skills. This can be used when the teacher wants to measure how much a behavior occurs across the total opportunities given to use it. This system is easy to count and can occur without disrupting instruction.

## WHEN CAN IT BE USED?

Opportunity recording is often used to measure how students are responding to instruction. It is used to report behaviors as averages of occurrence. When instructing a whole class, the teacher can use this to measure how many correct responses are given to questions, content that needs to be taught again, which students are struggling with concepts, and/or which students are engaged.





- 1. Clearly define the behavior
- 2. Clearly define the opportunities to engage in the behavior.
- 3. Start observing the student and record Y or + if the behavior is correct or N or if the behavior was incorrect or not used.

HOW TO IMPLEMEN

- 4. Repeat the process until the lesson or observation period is over.
- 5. When the observation period ends, add up all the Y or + boxes and divide that number by the total number of opportunities.

#### **Examples:**

- Answering questions asked during a lesson with a response stick
- Raising a hand to speak
- Taking turns with a toy
- Reciprocating a conversation

FEREN 

Chezan, L. C., Drasgow, E., McWhorter, G. Z., Starkey, K. I., & Hurdle, B. M. (2019). Discrimination and generalization of negatively-reinforced mands in young children with autism spectrum disorder. *Behavior Modification*, 43(5), 656-687.
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## EXAMPLE SHEET AND GRAPH

#### PER OPPORTUNITY TO RESPOND RECORDING SHEET

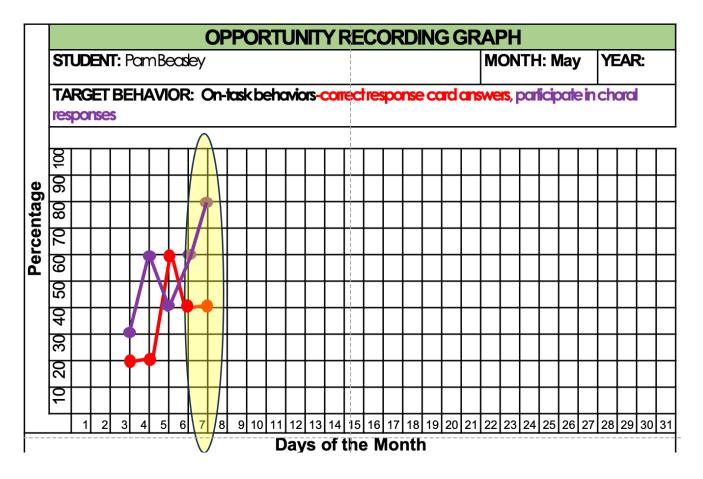
**STUDENT:** Pam Beasley

DATE: 5/7/23	OBSERVER: DwightSchrute	SETTING: Beet Farm

BEHAVIORS TO OBSERVE: On-task behaviors-correct response card answers, participate in choral responses

START TIME:										
9:15	1	2	3	4	5	TOTALYes / TOTAL Opportunities =				
Yes/No	Y	Y	N	N	N	2/5=40%				

START TIME:	Example: TYPE OF OPPORTUNITIES GIVEN: Joined choral response									
9:30	1	2	3	4	5	TOTALYes / TOTAL				
Yes/No	Y	Y	Y	Ν	Y	Opportunities = 4/5=80%				



### PER OPPORTUNITY TO RESPOND RECORDING SHEET

#### STUDENT:

SIUDENI:		
date:	OBSERVER:	SETTING:
BEHAVIORS TO	OBSERVE:	

START TIME:	TYPE OF OPPORTUNITIES GIVEN:								
	1	2	3	4	5	TOTALYes / TOTAL Opportunities =			
Yes/No									
START TIME:									

TIME:						
	1	2	3	4	5	TOTALYes / TOTAL Opportunities =
Yes/No						oppononines

START TIME:	TYPE OF OPPORTUNITIES GIVEN:									
	1	2	3	4	5	TOTALYes / TOTAL Opportunities =				
Yes/No						oppononines -				

START TIME:									
	1	2	3	4	5	TOTALYes / TOTAL Opportunities =			
Yes/No						oppononines -			

START TIME:									
	1	2	3	4	5	TOTALYes / TOTAL Opportunities =			
Yes/No						oppononines -			

START TIME:	TYPE OF OPPORTUNITIES GIVEN:												
	1	2	3	4	5	TOTALYes / TOTAL Opportunities =							
Yes/No													



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## Trials to Criterion Recording WHAT IS IT?

Trials to Criterion records the number of responses, instructional trials, or practice opportunities needed to reach a predetermined performance criterion.

# WHY IS IT IMPORTANT?

This data is important when the student is working toward a goal and the teacher wants to assess the efficiency of one or more instructional strategies. The behavior being measured must be

## WHEN CAN IT BE USED?

Trials to Criterion data can be used to monitor the efficiency of instruction. It can be used to compare different types of instruction on student learning. If the reversal of a behavior is not justified or ethical, this method can be used because it does not require a reversal. Trials to criterion are individualized for each student and must be attainable.





- Clearly define the behavior
- 2. Clearly define the opportunity to engage in the behavior.
- Start observing the student and record YES if the behavior is correct or NO if the behavior was incorrect.
- 4. Repeat the process until the observation period is over.
- 5. When the observation period ends, add up all the YES boxes and divide that number by the total number of opportunities.

#### Examples:

- Number of trials to reach 80% mastery of hand washing behavior
- Number of trials to reach 100% mastery of spelling words
- Number of trials to reach 50% accuracy with math facts

For Trials to Criterion graph example, see Partial Interval araph example

FERENCE 

Alberto, P. A., Troutman, A. C., & Axe, J. (2022). Applied behavior analysis for teachers (10<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education, Inc.

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### TRIALS TO CRITERION (TTC) RECORDING SHEET

DATE:

SETTING:

**BEHAVIOR TO OBSERVE:** 

#### DEFINE CORRECT RESPONSE:

#### **CRITERION FOR EACH STEP:**

#### CRITERION FOR TOTAL TASK (If using task analysis)

**OBSERVER:** 

#### correct responses are recorded as +, incorrect are recorded as 0

Steps/Skills:	Date	s:		TTC	%
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
Correct steps/skills per day					
Total task daily %					

## WHAT IS IT?

# Extinction



Extinction is an evidence-based practice, which refers to altering the environment to withhold reinforcement of previously reinforced behaviors to diminish undesirable behaviors (Cooper et al., 2020). Extinction often decreases behaviors maintained by positive reinforcement, negative reinforcement, and automatic reinforcement (Miltenberger, 2016). Extinction should be used with reinforcement of a replacement behavior. It is NOT just ignoring the student.

## WHY IS IT IMPORTANT?

Extinction is a procedure used to decrease or extinguish problem behaviors. Behaviors can be decreased without the use of aversive stimuli.

## WHEN CAN IT BE USED?

Extinction can be used for a variety of lowintensity behaviors maintained by escape or attentión. It should be used after more positive interventions have been shown (through data) to be ineffective.

# HOW TO IMPLEMEN

- 1. The problem behavior is first identified and clearly defined.
- 2. A data collection procedure is created and baseline data is collected on the behavior.
- 3. The function of the behavior is identified through A-B-C data collection across environments and people.
- 4. The extinction procedure plan is created based on the function to assure the correct motivation is targeted. Replacement behavior procedures may be identified here. See \*\*
- 5. The staff practice implementation to assure consistency, then the plan is implemented.
- 6. Data is collected on the replacement and problem behavior to make sure the intervention is effective.
- 7. The plan is reviewed and adjusted where necessary.

When first implementing extinction, the problem behavior will likely increase in frequency and/or intensity before it is extinguished (called an extinction burst) as the learner tries to access the reinforcement previously given. The use of non-contingent reinforcement can reduce length or intensity of extinction bursts.

\*\* Extinction is used with differential reinforcement of a replacement behavior. For more on differential reinforcement procedures, scan here. 

To view a module from 23 AFIRM:

To view a module from AIM:

Banda, D. R., McAfee, J. K., & Hart, S. L. (2009). Decreasing self-injurious behavior in a student with autism and Torrete's syndrome through positive attention and extinction. Child & Family Behavior Therapy, 31(2), 144-156. doi: 10.1080/07317100902910604

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TASN Autism and Tertiary Behavior Supports is funded through Part B funds administered by the Kansas State Department of Education's Early Childhood, Special Education and Title Services. TASN Autism and Tertiary Behavior Supports does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Deputy Director, Keystone Learning Services, 500 E. Sunflower, Ozawkie, KS 66070, 785-876-2214.

# **Response Interruption and** WHAT IS IT? Redirection (RIRD)



Response interruption and redirection (RIRD) is an evidence-based procedure that involves presenting demands or other types of distracters to interrupt an interfering behavior and redirect it to a more appropriate response.

## WHY IS IT IMPORTANT?

## WHEN CAN IT BE USED?

This procedure is important because learners are interrupted from engaging in interfering behaviors and redirected to more appropriate, alternative behaviors.

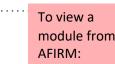
RIRD is used to address behaviors that are repetitive, stereotypical, and/or selfinjurious. This usually follows a functional behavior assessment (FBA) to identify the function of the behavior.

# **HOW TO IMPLEMENT**

- 1) The interfering behavior is identified.
- Data is collected on when the behavior occurs, with whom, and in what environments. The function of the behavior is identified, usually through an FBA.
  - Use ABC data sheets to determine antecedents and consequences. a)
  - b) Functionally equivalent (serves the same purpose) alternative behavior is identified and taught.
- The student is reinforced for engaging in the replacement behavior. (3) When the identified behavior occurs, it is interrupted (blocked) as soon as (4)possible (rule of immediacy). This block can be physical or verbal.
  - Physical block: The student is physically prevented from engaging in a b) behavior using the least amount of physical assistance necessary to stop it (only a few seconds).
  - C) Verbal block: The student is prevented from engaging in the interfering behavior by issuing a verbal directive.









To view a module from AIM:



Boyd, B., & Wong, C. (2013). Response interruption/redirection (RIR) fact sheet. Chapel Hill, NC: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.

- Fellner, D.J., Laroche, M., & Sulzer-Azaroff, B. (1984). The effects of adding interruption to differential reinforcement on targeted and novel self-stimulatory behaviors. Journal of Behavior, Therapy, and Experimental Psychiatry, 15(4), 315-321.
- Neitzel, J. (2009). Steps for implementation: Response interruption/redirection. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, The University of North Carolina.

# Chaining



An errorless learning teaching procedure. 3 Types of Chaining Procedures:

- 1. Backward Chaining: A chaining procedure that begins with the last element in the chain and progresses to the first element. The learner continues to perform the skill in sequential order; however, the elements or links of the chain are taught in reverse order, meaning, the last step in the chain is taught first.
- 2. Forward Chaining: A chaining procedure that begins with the first step in the chain. Once the learner is able to perform the first step independently, they move to the first and second steps, then are reinforced after the second step. In forward chaining, more elements are added once the student has learned the previous steps. For the steps of the chain the student is not actively being instructed, the teacher can guide the learner through the rest of the chain, or model the task steps depending on what skill is being taught.
- 3. Total Task Chaining: Also called total-task presentation or whole-task presentation is a variation of forward chaining in which the learner receives training on each step in the task analysis during every session. Trainer assistance is provided using prompts with any step that the learner is not able to perform. Examples of prompts could be verbal instructions, modeling, and physical guidance. The chain is trained until the learner performs all the behaviors in the sequence to criterion.

# WHY IS IT IMPORTANT?

Chaining is used to teach new skills to students. It helps reduce errors and teaches skills more efficiently. There is greater chance for reinforcement due to fewer errors, and consequently, reduced frustration for the student.

WHAT IS IT?

## WHEN CAN IT BE USED?

It is used to teach chained skills with the support of a task analysis that clearly outlines each step (e.g., dressing, purchasing, vocational skills, etc.)

> To view a short video, scan here:

### Backward Chaining:

**HOW TO IMPLEMENT** 

- 1. Deliver cue to student. Provide hand over hand guidance through task until teaching step (e.g., last step of task). Remove physical prompt at teaching step to allow for independence.
- 2. Follow prompt hierarchy to teach the next step. Allow 3-5 seconds of response time between prompt levels and reinforce at the completion of the task.
- 3. Continue process for remaining steps. Record data only on the teaching steps.

### Forward Chaining:

- 1. Deliver cue to student. Allow for independence on **the first** teaching step. Allow 3-5 seconds of response time between prompt levels.
- Respond to incorrect responses by moving up the prompt hierarchy. On all other steps of the chain, provide guidance or model the task steps being taught. Record data only on the teaching steps.
   63

# HOW TO IMPLEMENT, CONTINUED

#### Total Task Chaining:

- 1. Deliver cue to student. Allow for independence on **each** teaching step. Allow 3-5 seconds of response time between prompt levels.
- 2. Respond to incorrect responses by moving up the prompt hierarchy. On all other steps of the chain, provide guidance or model the task steps being taught. Record data on each of the teaching steps.

#### On all chaining procedures:

- Avoid repeating the same prompt more than once. For example, don't give 4 gestural prompts on the same teaching step. Instead, give one gestural prompt if the student doesn't respond, move to the next prompt level (e.g., partial physical prompt).
- Avoid overusing verbal prompts. After giving one verbal prompt, silently move to the next prompt level. Too much talking can confuse and frustrate the learner. Verbal prompts are difficult to fade and dependency on the instructor can occur with over usage.

#### Which one do I use?

There is no research study to support which chaining procedure to use. Each chaining procedure can be effective if matched to the learner's individualized needs.

A student that is likely to make many errors, and has few of the prerequisite skills to perform the task, would likely benefit from a backward or forward chaining procedure. The learner is only required to learn a small portion of the chain, and gradually build upon those skills. This reduces the task load and may help to reduce frustration when learning a complex task.

Anecdotal evidence and logical analysis suggest that total-task chaining may be appropriate when the student can a.) perform many of the tasks in the chain, but needs to learn them in sequence; b.) has an imitative repertoire; c.) the learner doesn't make many errors; and d.) when the task sequence or cycle is not very long or complex (Cooper, et al., 2020).

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## **Behavior Skills Training (BST)** WHAT IS IT?

Behavior Skills Training (BST) is a four-step procedure for teaching new skills, involving the following: Instruction, Modeling, Rehearsal, and Feedback (Miltenberger, 2004). It is a comprehensive approach that can be used to teach a wide range of skills or behaviors to a variety of people (Ward-Horner & Sturmey, 2012). BST has been shown to be effective in training students, teachers, paraprofessionals, etc. quickly when these instructional procedures are used (Gianoumis, et al., 2012). The efficacy of BST is often measured by criterion of skill acquisition rather than a set amount of time.

## WHY IS IT IMPORTANT?

Behavioral skills training is an evidencebased approach for training personnel. BST teaches a person what to do in particular environments or circumstances. It allows for modeling and practice so that the person can become fluent with the skills so there is more consistency among staff. Feedback is used to improve each person's skills and abilities (Parsons, et al, 2012).

## WHEN CAN IT BE USED?

BST is appropriate for teaching students a variety of skills including academics, social skills, behavior skills, and daily living skills. It is appropriate to use with staff any time a new skillset or procedure is needed to assure competency and consistency in implementation (new behavior plan, teaching procedure, etc.).

# **HOW TO IMPLEMENT**

### Steps for Implementation

**Step 1: Instruction** – Vocally describe the rationale and step-by-step instructions for implementing the target skill then provide a copy of the written instructions for the trainee to refer to as needed in the future. The instructions should be clear and concise using common language and not jargon. .

**Step 2: Modeling** – This step SHOWS the person what to do. It is important to model the skill with the actual student in the Besure to practice to fluency before actual environment (or the closest approximation possible). Be sure to practice to fluency before modeling the skill. Visual supports and video modeling can support this step further.

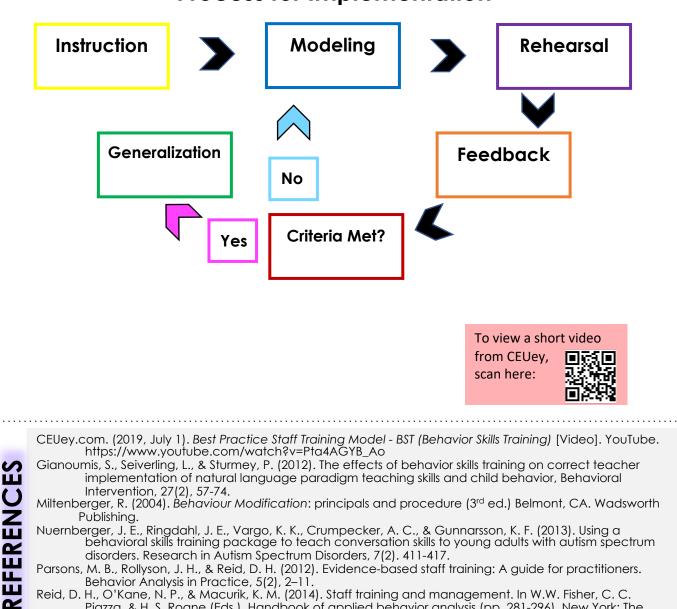
**Step 3: Rehearsal** – Beyond modeling, skill acquisition requires that instruction provides the learner to practice with supervision. It is vital to practice new behaviors in role-play, then the actual situation to ensure not only mastery, but also fluency.

**Step 4: Feedback** – Feedback can sometimes be skipped due to time constraints. However, this step is critical in improving skill sets. If possible, immediately correct mistakes while the person can still change it. Positive praise statements are used before corrective feedback to tell the person what he performed correctly. Corrective feedback is used to tell the person what he needs to do to perform the skill or behavior correctly. Don't wait until the entire procedure is completed to correct a mistake in the first step or the person may learn the skill incorrectly by practicing with errors. After the initial vocal feedback is given, written feedback should be provided when when monitoring future performance to mastery so that the trainee can refer to the feedback and the trainer can keep of log of the progress.

Supportive feedback is used to tell the person what they performed correctly.

# HOW TO IMPLEMENT, CONTINUED

## **Process for Implementation**



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# Discrete Trial Training (DTT)



### DTT involves the following:

- Breaking a skill into smaller parts
- Teaching each part to mastery
- Providing concentrated teaching
- Providing prompting and fading as necessary
- Using reinforcement procedures

## WHY IS IT IMPORTANT?

WHAT IS IT?

## WHEN CAN IT BE USED?

Most students with ASD do not naturally gain information from their environment, listening to others, or modeling others' behavior. The DTT method enables instructors to systematically analyze tasks a student needs to learn, break them down into small, defined steps, and systematically teach them in incremental parts that he can more easily learn. It enables different teachers to be consistent in their instruction by clearly writing out the procedures for implementing a discrete trial. This works for any behavior or skill with a clear beginning and end.

- Academic examples: Labeling, word recognition and oral reading, addition facts, money selection and counting, time telling and science vocabulary.
- Communication examples: Yes/no responses, question asking, requesting and manual signs.
- Self-help examples: Drinking from a cup and cooking.
- Social Skills: Waiting one's turn, social initiations, and saying "please".
- Leisure Skills: Soccer, basketball, and toy activation using a switch.







1. Identify discrete behavior.

ERENCES

- 2. Present instruction in a concise manner, consistently across all instructors, only when student is attending and motivated, only once, and without using the student's name.
- 3. Provide immediate reinforcement for a correct response, and to avoid inadvertent reinforcement of an incorrect response.
- 4. Use prompts to prevent errors and plan to fade them out when student demonstrates success.
- 5. Record data on discrete behavior and graph results. This is to monitor progress.

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# Incidental Teaching



WHAT IS IT? Incidental teaching (IT) is a teaching procedure where new behaviors are taught through structured opportunities within the context of typical events when the behaviors occur naturally (also called the natural environment). Following the lead of the student, the interests and moment to moment motivation are used to implement strategies

that encourage engagement and responding. The instructor may have to embed learning opportunities by rearranging the natural environment.

# WHY IS IT IMPORTANT?

Natural reinforcers are tied directly to the task or desired behavior. For example, after you set the table for snack, you get to eat. This procedure increases the likelihood of generalization, increased motivation to learn, and functional relationships between the desired behavior and outcomes. The involvement of parents, peers, and other family members is encouraged in interventions and activities.

## WHEN CAN IT BE USED?

Skills taught using IT optimize learning in the environments where a student typically interacts. For example: A skill that is classroom related (math), is taught in the classroom at the typical time it occurs; a skill that is home related (dinner), is taught at home in the evening: and a skill that occurs in both environments (toileting) is taught in both environments.





- 1. Choose a target behavior and define it in measurable, observable, and specific terms.
- 2. Identify Learning Opportunities: it is important to identify people and a variety of settings to teach the skill. This will increase the likelihood of generalization.

**HOW TO IMPLEMENT** 

- 3. Embed Learning Opportunities if none exist: If the student is learning to greet others, the instructor could embed opportunities to greet the office staff, school counselor, and the cafeteria staff.
- 4. Determine what teaching procedure to use.
- 5. Use reinforcers that directly relate to the behaviors or tasks (natural reinforcers) such as when a student reaches for putty and gets to play with it following saying "puh."
- 6. Embed social interactions into the natural reinforcers. For example, if the student says "sunshine" to request "You are my sunshine" song, the adult could sing with the student.
- 7. Collect data and graph results to assess treatment efficacy.
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# Natural Environment Teaching (NET)

Natural Environment Teaching (NET) uses applied behavior analysis principles to teach the student new skills and generalization within the real world. For example, a student may be taught to identify grooming items at the learning table, then during NET, he can put the skill to practice by retrieving the items during his morning routine. It differs from incidental teaching as you pre - plan instruction within the natural environment.

## WHY IS IT IMPORTANT?

If a student cannot transfer learning from the classroom to the real world, the skill is not functional or socially valid. Skills being taught are portable and can be generalized. It uses a student's motivation to maintain interest and is not dependent on a table or particular set of materials.

DTT

## WHEN CAN IT BE USED?

NET is less structured than discrete trial training (DTT). It can be used to transfer skills from DTT to the real world. It can be used to keep a student engaged in learning by incorporating special interests and motivation. Rapport building can be done in this context.

NET

Highly structured Pre-planning Contrived reinforcers

Less structured Follows student lead Natural reinforcers

To view a short video, scan here:



1. Choose a target behavior and define it in measurable, observable, and specific terms.

IT

**HOW TO IMPLEMENT** 

- 2. Schedule when target skill will be used within the natural environment.
- 3. Focus the curriculum on student specific needs and embed within his/her interests.
- 4. Characteristics of NET also include capturing motivation through pairing.
- 5. Use errorless learning to teach.
- 6. Reinforce correct responses using natural reinforcers whenever possible.
- 7. Collect probe data prior to teaching session and record what the student can perform correctly and incorrectly. Data collection is not required during the teaching session.
- 8. Graph probe data to monitor results.

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# **Active Supervision**



WHAT IS IT? Active supervision is a procedure used to create and implement a comprehensive approach to monitor students. The procedure requires staff to provide attention and to purposefully observe their students. Problem behaviors are responded to in a timely manner and expected behaviors are taught. Students are provided with many opportunities to engage with and respond to instruction. There are three components of active supervision: Moving, Scanning, and Interacting Frequently (DePry & Sugai, 2002). Staff use their knowledge of each student to anticipate what different antecedents may trigger, then redirect immediately and plan for changes to the antecedents in the future. Consistent and active observation helps to manage the classroom.

## WHY IS IT IMPORTANT?

Active supervision reduces student problem behaviors. There is a direct correlation between an increase in the number of positive interactions from staff to students and a decrease in problem behaviors. It builds staff/student relationships. Active supervision also improves safety for students as potential dangers are managed swiftly. It improves the rate of staff providing learning assistance to students as well.

## WHEN CAN IT BE USED?

Active supervision can be used to reinforce positive behaviors of students in the classroom. It is also used during both group and independent work time to improve ontask behavior and to reduce problem behaviors. It assures students are meeting the academic and behavioral expectations in the classroom.

# **HOW TO IMPLEMENT**

#### Moving:

Set up the room to allow for easy movement. Move around the room to observe and interact with students as necessary. Move in a way that students can see they are being observed, without using a set path that students can predict. (if they know when you are going to come their way, they know when you won't be looking too). Spend more time in the area of students who are more off-task or engaging in problem behaviors. Also, spend time in areas where more conflict and problem behavior is likely (such as games and toys).

#### Scanning:

Staff observe the environment so they know where all the students are and what they are doing. Staff should eliminate distractions to observing such as phones, administrative tasks, and side talk. Making eye-contact with students is important while scanning. Off-task and out of seat behavior is easy to spot when actively scanning the environment. During transition times, students are accounted for to assure they all make it to their assigned areas. In addition to the visual scanning, auditory scanning is used. Specific sounds (or lack of sounds) may indicate a problem area such as increasing volume at a table as an argument starts or no noise coming from a particular student indicating no participation.

# HOW TO IMPLEMENT, CONTINUED

#### Interacting:

Staff use what they know about students to help predict their behavior and support them. The use of pre-correction is important as it clarifies the expectations for each activity or task. This is a great opportunity to show an interest in students and their work. Non-contingent positive attention can be provided often for all students. If the students appear bored or disinterested, staff can quickly create challenges or provide more activity to increase engagement. While interacting, there are multiple opportunities for pairing reinforcement with learning. Students can be immediately positively reinforced for their appropriate or desired behaviors. Additionally, correction can be delivered discretely during interactions. Student can be corrected, desired behavior can be modeled, students can practice, and receive reinforcement in a few seconds. If necessary, consequences can be delivered immediately and contingently before the behavior escalates.



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# Opportunities to Respond (OTR)

Opportunities to respond (OTR) is an intervention where a teacher asks questions or makes comments, then provides all students multiple opportunities to answer individually or with choral responses. Multiple types of differentiated responses (such as verbal responding, response cards, objects, white boards, etc.) are presented based on the needs and abilities of each student (Cuticelli, et al., 2016). The purpose of OTR is to improve student engagement by encouraging multiple responses at a higher rate than traditional hand raising. When responding rate is increased, students are less likely to be off-task (Bolt, et al., 2019).

## WHY IS IT IMPORTANT?

Providing OTR questions around learning objectives leads to opportunities for students to engage in positive academic and behavioral responses. Questions and responses requested can be based on each student's ability level so all students can be engaged. Specific reinforcement and feedback is provided to each student, which means students will be less likely to engage in escape-maintained problem behavior (Alberto, et al., 2022). Teachers can identify questions to use in instruction that increase class-wide responding for students at all ability levels.

## WHEN CAN IT BE USED?

When teachers want to increase responding for ALL students, OTR is an effective tool. Increased attention and reduced off-task behaviors are observed as the pace of instruction is increased.

If a teacher needs to check for efficacy of instruction, the immediate feedback s/he gets from student responses helps identify less effective areas. This allows the teacher to target further instruction in those areas. Further, OTRs have been shown to improve reading and math skills for students (Van Camp, et al., 2020).

# **HOW TO IMPLEMENT**

The target rate of OTR is at least 3 responses per minute. Additionally, it has been found that the optimal wait time for responses is about 3 - 5 seconds. This allows students to think through their responses and allows more students to respond. Quality is improved when it takes fewer practice opportunities for students to demonstrate the skill at mastery (MacSuga-Gage et al., 2015).

### Steps for Implementation:

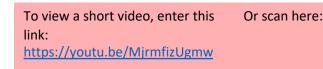
- 1. Identify a target lesson and educational objectives to be met.
- 2. Prepare a list of questions or cues to be used for the whole class choral responding and for individual student responses.
- 3. Prepare a list of questions or cues for individual targeted students.
- 4. Decide how student responses will be given such as partner sharing, nonverbal responses such as thumbs up/down, 4 corners of the room, pre-written response cards, white boards, etc.

# HOW TO IMPLEMENT, CONTINUED

- 5. Before the lesson, explain how each response type works and practice a few if necessary.
- 6. During the lesson, ask prepared questions and prompt responses when needed.
- 7. Reinforce correct responses and provide options for students to make corrections to incorrect responses with prompts if needed.

### To optimize OTR:

- Post questions visually so students can reference or re-read them before responding
- Model how you want students to give different responses
- Be creative with response types. For example, have students put their hand on their hip to garee and on their head to disagree, or high five your partner for yes and low five for no.
- Vary between individual and group responses.
- Let students talk with a partner before giving an answer
- Keep a list of students and tally after each one responds to track who has answered a question and who has not.
- Increase the pace of questions to keep students engaged
- Ask students for feedback on what helped them learn and what did not





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# Shaping



Shaping is a procedure used to reinforce successive approximations of a new (target) behaviors in a person's repertoire through differential reinforcement. Approximation means a behavior that resembles the target behavior. Successive approximations are steps toward the target behavior. If a behavior never occurs, it is not in the person's repertoire. Differential reinforcement is the process of giving reinforcement for performance of the target behavior while putting other responses on extinction.

## WHY IS IT IMPORTANT?

WHAT IS IT?

Shaping is a procedure that builds a desired target behavior that is not in the student's repertoire. Shaping is especially useful when the target behavior is difficult to learn by prompting, traditional instruction, or imitation. It is important to develop skills that need to be learned in small steps.

## WHEN CAN IT BE USED?

Shaping is used when a student needs to engage in a target behavior that is not used. Some behaviors are difficult to prompt, such as verbal behavior. This procedure is effective for students that may take a lot of time to reach the final behavior because it allows the student to continually contact reinforcement.

# **HOW TO IMPLEMENT**

- 1. Define the target behavior: The target behavior will need to be clearly defined so everyone is working on the same goal and the expectations are clear for the student.
- 2. Create a task analysis for reaching the target behavior. This is done by breaking it down the desired behavior into smaller steps that move the student successively closer to the target behavior.
- 3. Select the reinforcement. Decide what type of reinforcement will be used, which current behavior will be reinforced, when it will be reinforced, and how it will be reinforced.
- 4. Determine any prompting that may need to happen to move to each new step of the approximations.
- 5. Collect data on the behavior. Use data to make decisions to move to the next approximation or to take a step back if the student is not contacting reinforcement.

# HOW TO IMPLEMENT, CONTINUED

### Example: Wearing a mask

- 1. Mask wearing is defined as placing the mask over the nose and mouth, then stretching a loop from each side of the mask over the corresponding ear to secure it to the face.
- 2. The approximations to be reinforced are:
  - a. Pick up the mask with one ear loop in each hand.
  - b. Pick up the mask and hold it over the nose and mouth.
  - c. Hold the mask over the nose and mouth with one hand, then grasp an ear loop with the other hand.
  - d. Hold the mask over the face, then place the ear loop over one ear.
  - e. Hold the mask over the nose and mouth then place the ear loop over one ear, switch hands, and place the other loop over the opposite ear.
  - f. Place the mask on the face, stretch the loops over the ears, and adjust the nose so it fits comfortably.
- 3. The reinforcer will be playing with a soccer ball in the classroom for longer periods of time, which will be transferred to playing outside when the terminal goal is mastered.
- 4. Prompting will be used to help the student place the mask over the face and over the ears when those steps are implemented, and to adjust the mask to fit properly. When these steps are complete, a shaping procedure for wearing the mask for longer periods of time will be implemented.
- 5. Data will be collected on completion of each step and when the student has three consecutive opportunities where the step is performed appropriately, the next approximation will be the new target.

TO VIEW a SHOLL VILLE

scan here:



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# Stimulus Equivalence



An Equivalence Class is a group of stimuli that evoke the same behavior. Learning a behavior in the presence of a stimulus that is a member of a stimulus class should generalize to other members in the stimulus class. Stimulus relations include reflexivity, symmetry, and transitivity. **Stimulus Equivalence** has been achieved when ALL equivalent matching has been learned (reflexive, symmetry, and transitivity).

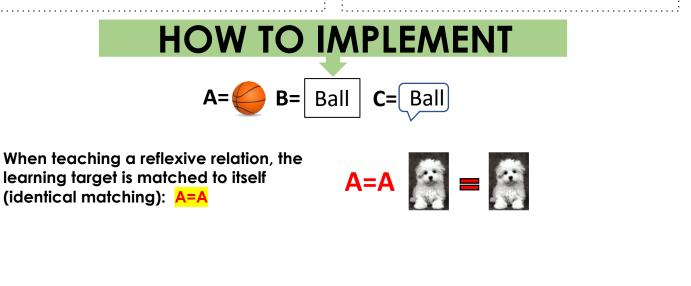
# WHY IS IT IMPORTANT?

Stimulus Equivalence training creates generalization and expansion of trained skills.

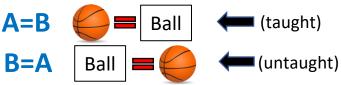
A student is only taught two relations (A=B and B=C); then, she can perform untrained relations (B=B, C=C, B=A, C=B, A=C, C=A).

## WHEN CAN IT BE USED?

When teaching a new concept, a student identifies a symbolic relationship between two or more non-identical stimuli without specific training on that relationship. This allows the student to learn more skills in less time, with less effort.



When teaching a symmetrical relation, the learning target is matched to a reverse relation: A=B and B=A The student is taught to match the picture to the word. The student is then able to match the word to picture without direct teaching.



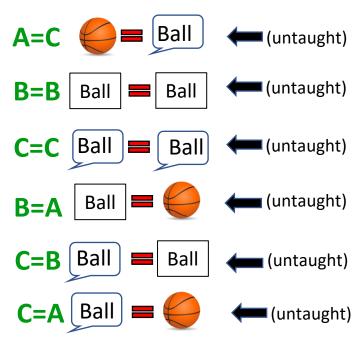
## HOW TO IMPLEMENT, CONTINUED

When teaching a transitive relation, the learning targets are connected by shared members of the stimulus class:

A=B and B=C, A=C

These are for free:

The student is taught to match the picture to the word card "ball" and the word card to the spoken word "ball." The student could then match the picture to spoken word, word card to word card, spoken word to spoken word, word card to picture, spoken word to word card, and spoken word to picture for free!





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# **Proximity Control**



WHAT IS IT? Proximity control is a strategy that staff can use to increase on-task behavior. It provides attention to a student who needs regular contact with staff and provides a reminder to the student who gets easily distracted. Student engagement is improved as staff move closer to that student.

# WHY IS IT IMPORTANT?

Proximity control is important because it helps remind students to stay on task in a discreet way. It can be used to prevent problem behavior or to redirect students back to their task. It can be effective for students who are seeking attention or those that are easily distracted. It is easy to implement without stopping classroom instruction or throwing the pace of instruction off. Proximity control can be used as part of actively supervising a classroom. If a student is off task or shows precursors to problem behavior, proximity is used. During group instruction, proximity is used to make sure they are all engaged and ontask, as well as assuring they are grasping the content presented.

WHEN CAN IT BE USED?

To view a short video, scan here:

# **HOW TO IMPLEMENT**



- 1. Identify the environment and activities where staying engaged and on-task may be difficult for students.
- 2. Identify any students that may need extra attention in group instruction due to problem behavior or off-task behavior.
- 3. Prepare the classroom environment so there are no materials or items on the floor that might prevent easy movement around the room.
- 4. When providing instruction, be sure to move around the room. Teaching from the same spot limits the ability to closely monitor all students.
- 5. Periodically scan the room to identify behaviors and movements of students that indicate they are off-task or not responding to check-in questions and move toward those students.
- 6. If certain students continuously have difficulties, increasing overall proximity may be needed. This can be done by placing the student's desk closer to the teacher or aide, setting up small groups so the student is sitting closest to the teacher, or by standing beside that student more often as instruction is given. \*\*caution: be careful not to <u>always</u> stand by a specific student as it may cause that student to react in a negative way. Move with the stealth of a panther!
- 7. Keep instruction going so the engaged students continue to attend to the lesson.
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