

Exercise Answers

Exercise 6.1

- PR 1. Police stop drivers and give them a prize if their seat belts are buckled; seat belt use increases in town.
- NP 2. A basketball player who commits a flagrant foul is removed from the game; his fouls decrease in later games.
- PP 3. A soccer player rolls her eyes at a teammate who delivered a bad pass; the teammate makes fewer errors after that.
- NR 4. To help decrease muscle aches when you are sore you take a hot bath. (You do it more often if it works)
- PR 5. After a good workout in physical therapy, hospital patients are given ice cream sundaes. They work harder in later sessions.
- NR 6. Homeowners who recycle get to deduct 5% from their utility bill. Recycling increases after this program begins.
- NR 7. After completing an Alcohol Education Program, the suspension of your driver's license is lifted. More DWI drivers now complete the program.
- NP 8. After Jodi flirted with someone else at the party, her boyfriend stopped talking to her. Jodi didn't flirt at the next party.
- PR 9. The employee of the month gets a reserved parking space. Employees now work harder.
- NP 10. A dog is banished to his doghouse after soiling the living room carpet. The dog has fewer accidents after that.
- NR 11. A professor allows those students with A averages in the class to skip the final exam. Students work harder for A's.
- NR 12. You clean up your stuff more regularly now to avoid your roommate's (or mother's) nagging.
- PR 13. You wax your skis making them go faster. In the future, you wax them before skiing.
- PP 14. You do not study for your PSYC 101 exam and you earn a 'F.' Your parents scold you over the phone.
- NR 15. To deal with hunger pangs, you eat food and feel better.
- NP 16. You do not study for your PSYC 101 exam and your sorority or fraternity expels you from the house.
- PP 17. You intentionally do not reply to an email from your boss and are given a reprimand. In the future, you do not ignore his emails.
- PR 18. You are given a kiss by your girlfriend after you surprise her with a rose. In the future, you are more likely to shower her with gifts.
- NP 19. You never surprise your girlfriend with anything nice to show her how much you appreciate her. Therefore, she refrains from talking to or kissing you. The point is to discourage you from not showing your appreciation. P is inferred.
- NR 20. Your computer shuts down after you do not plug it up and allow it to recharge. In the future, you plug it up to when the battery indicator flashes red to avoid it shutting down and you losing work.
- NP 21. A cat keeps confusing the sofa for the litter box and so her owner removes her feeding dish to discourage this smelly behavior.
- NR 22. The sun is bright on the horizon. You put on your sunglasses and the discomfort is reduced. In the future you put on sunglasses in the same situation.
- PR 23. You earn an A on your exam. Your professor praises you. In the future you study more.

NP 24. You and your brother are fighting over a toy. Your parents take away the PS3 for one week and fighting decreases in the future.

25. The annoying child jumps up and down, hand raised, yelling "Me, me, me!" until the teacher calls on her. The child jumps and yells even more in the future.

ANSWER: PR for the child as he gets attention and NR for the teacher as something aversive is taken away (the annoying child screaming) which makes it more likely that the teacher will call on the child in the future when he is acting up.

Exercise 6.2

FI 1. You get paid once every two weeks.

FR 2. A worker is paid \$2 for every 100 envelopes stuffed.

VR 3. Slot machines at casinos pay off after a variable number of plays.

FI 4. Students are released from class when the end-of-period bell rings.

VR 5. A fly fisherman casts and reels back his line several times before catching a fish.

FR 6. You get a nickel for every pop can that you return.

FR 7. Every time you buy a sandwich you get your card punched; after 10 punches you get a free sandwich.

VI 8. Sometimes the mail is delivered at 1:00, sometimes closer to 2:00.

FR 9. A car salesman gets a commission on each sale.

VR 10. Consider the same salesman in #9. Does he get a sale for every car he attempts to sell? What schedule does this represent? He receives commission some varying number of times he attempts to sell a car.

FI 11. You receive a small increase in your hourly wage once a year.

VI 12. A teacher programs a buzzer to go off at various times during the period. If students are on task they receive a reward.

VR 13. Matt gets a hit about once every 3 times he swings the bat.

FR 14. Every time Matt gets a hit though, the fans cheer making him feel good and want to get more hits.

15. A child receives a star on the board when he is good and makes positive contributions to the class discussions, as determined by his teacher and after some random amount of contributions each day. Every three stars earn him a prize from the prize box. Is there more than one schedule present here? If so, what are they?

VR - some random amount of contributions each day

FR - Every three stars earn him a prize from the prize box

Exercise 7.1

1. Goal setting:
 - a. Target behavior – **Quit smoking**; 1 behavior = smoking 1 cigarette
 - i. Sub-goal 1 – smoke 15 cigarettes per day/ every day (105 behaviors per week)
 - ii. Sub-goal 2 – smoke 10 cigarettes per day every day (70 behaviors per week, etc.
 - iii. ...Final goal – smoke 0 cigarettes every day (0 behaviors per week)
 - iv. This is an example of extinction.
 - b. Target behavior – **reducing caloric intake**; 1 behavior = eat 100 Calories
 - i. Sub-goal 1 – eat no more than 2000 calories per day (20 behaviors per day x 7 days = 140 behaviors per week)
 - ii. Sub-goal 2 – eat no more than 1800 calories per day (18 behaviors per day x 7 days = 126 behaviors per week)
 - iii. Final goal – eat no more than 1500 calories per day (15 behaviors per day x 7 days = 105 behaviors per week)
 - iv. NOTE – This would use a DRL procedure as a consequence focused behavior.
 - v. Since it is an excess, the behavioral counts should go down.
 - c. Target behavior – increasing **feelings of self-worth**; 1 behavior = write down 1 positive thought about yourself;
 - i. Sub-goal 1 – write down 1 positive thought about self every day (7 behaviors)
 - ii. Sub-goal 2 – write down 2 positive thoughts about self every day (14 behaviors), etc.
 - iii. Final goal – write down 5 positive thoughts about self every day (35 behaviors)
 - iv. For differential reinforcement, DRA should work.
 - d. Target behavior – **overcoming social phobia**; 1 behavior = talk with a stranger(s) on any topic for 30 seconds;
 - i. Sub-goal 1 – talk with a stranger for 30 seconds, 3x per week (3 behaviors)
 - ii. Sub-goal 2 – talk with a stranger for 1 minute, 3x per week (6 behaviors), etc.
 - iii. Final goal – talk with a stranger for 10 minutes, 3x per week (60 behaviors)
 - e. Target behavior – **weight training**; 1 behavior = weight lift 5lbs more than starting weight when working all body areas;
 - i. Sub-goal 1 – weight lift 5lbs more than starting weight when working all body areas, 3x per week (3 behaviors)

- ii. Sub-goal 2 – weight lift 10lbs more than starting weight when working all body areas, 3x per week (6 behaviors), etc.
 - iii. Final goal – weight lift 20lbs more than starting weight when working all body areas, 3x per week (12 behaviors)
- f. Target behavior – **reducing late night eating**; 1 behavior = having a snack after 10pm;
 - i. Sub-goal 1 – having a snack after 10pm only 5x per week (5 behaviors)
 - ii. Sub-goal 2 – having a snack after 10pm only 3x per week (3 behaviors), etc.
 - iii. Final goal – having a snack after 10pm only once per week (1 behavior)
 - iv. This is another DRL procedure.

The criteria for moving from one goal to the next should also be established for each target behavior.

2. Since most of the behavioral work is done outside the place of where the child is having behavioral problems, we would need to practice new skills by:
 - a. practicing these skills via role-play, in the imagined or simulated environments where the child is likely to act out (e.g., going to a different class, or practicing it in the space with no one else present);
 - b. involving the child's PE teacher and others willing to help reinforce the desirable behavior is likely to help as well, although we would have to make sure that they understand the behavioral definition and what exactly should be reinforced and how;
 - c. encourage the student to practice his/her desirable behavior during the PE classes he/she already attends;
 - d. create and practice certain subtle cues or use small special items (e.g., carry a small stress ball that he/she squeezes when angry) that could remind the student of the desirable behavior.
 - e. The information on promoting generalization in the textbook or on Slide 16 will help.
3. You can use all prompts in this example:
 - a. Verbal to explain the rules, roles, and even about how to properly hold a bat. Also, use verbal cues to reinforce the behavior at later stages of learning.
 - b. Modeling – demonstrate how to bat and catch a baseball.
 - c. Gestural – point to appropriate bases, when to pick up a bat, catch a ball, or run.
 - d. Physical – help the child hold the bat or catch the ball properly, by physically adjusting their stance, arms, etc.
 - e. In this example, it will likely be best to move from most to least aversive (eventually, fade across prompts from most to least aversive). The child will likely need some more hands on training first and then less hands on later.
4. Target behaviors – reduce coffee intake AND increase water consumption. Antecedent procedures to be used:

- a. Create a cue for the desirable behavior – to drink more water, you could carry a water bottle with you or place full water bottles everywhere in your home, office, other environments that you spend a lot of time in;
 - b. Remove a cue for the undesirable or problem behavior – make caffeinated beverages unavailable – remove all soda, coffee grounds, coffee making machines, and coffee cups from visible surfaces;
 - c. Increasing the energy needed to make a problem behavior – do not bring cash with you where you can easily obtain a vending machine beverage, do not buy any sodas or any other caffeinated beverages, especially in bulk;
 - d. Decreasing the energy needed to engage in the desirable behavior – bring water bottle with you everywhere; have water bottles or filtered water readily available;
 - e. Establishing operations – drink a glass of water before going to a place that is likely to have coffee/ soda, that way you would be less likely to drink caffeinated beverages just out of thirst; if you consume of soda/ coffee, drink the same amount in water – will be less likely to reach for a 2nd soda/coffee!
 - f. Abolishing operations – research negative effects of excessive use of caffeine and associated poor nutritional value and post it on your fridge, car dashboard, anywhere you can see it when you reach for a coffee/soda.
5. Establishing operations in overcoming social phobia:
- a. Putting oneself in social situations (e.g., going to a grocery store, mall, student union building), making conversations more likely;
 - b. Creating and reciting every day a list of reasons for wanting to overcome social phobia.
 - c. Natural contingencies of reinforcement play in here too. If you have a positive interaction and make a friend, you will want to interact with other people more often.
 - d. Also, choose a topic you really like to talk about to break the ice.
 - e. Is a cognitive behavior modification strategy needed too such as cognitive coping skills training?
6. Using abolishing operation to eliminate nail biting:
- a. Research negative effects of nail biting (i.e., getting infections, colds/ flu more easily, deformed nails) and post it somewhere visible (but maybe private) as a reminder to yourself;
 - b. Plan to occupy hands (e.g., squeeze a stress ball, play with a pen/pencil or rubber band, draw/ color or do other crafts), especially during the times when most likely to bite nails (e.g., feeling stressed, bored, anxious). – Use DRI for a consequence focused strategy
 - c. Place nail polish on nails or use acrylic nails.
7. Increasing feelings of self-worth:
- a. Presenting a cue for the desirable behavior – have sticky notes with positive affirmations (e.g., “I’m worthy of love, care, and support”) posted everywhere; listen to/ read self-help books, which should be easily available (e.g., placed near

bed stand) on increasing self-worth; or purchase motivational posters; is there an app for this?

- b. Self-instructions – make post-it notes with positive affirmations;
 - c. Social support – get others (friends, family, co-workers) to support/ reinforce your feelings of self-worth (e.g., remind of positive affirmations, praise when using those);
 - d. Prompts – have others for verbal prompts or use sticky notes as visual verbal cues to reminder to practice positive affirmations to increase self-worth.
 - e. DRA will work well for this as a consequence focused strategy.
 - f. Is a cognitive behavior modification strategy needed too such as cognitive restructuring?
8. The teacher might use stimulus discrimination to limit the student's social behavior to only certain, appropriate situations, such as during recess and gym, but not during class time. The teacher could give praise (and tell others in authority to give praise) to student when she is social *only* during recess and gym; however, the teacher and other authority figures should ignore her social attempts in class. After some time, her prosocial behavior in the classroom should be extinguished, while she still can maintain it in more appropriate social settings. The teacher can also use verbal prompts or a gestural prompt (cue that only the teacher and student know) to indicate a need to calm down. Social support can be used by having students in his or her group to deliver a verbal prompt to calm down.
9. You could begin with modeling the behavior of setting a table, including where to get utensils, dishes, other items, etc. and arranging them on the table. After that you could proceed with some physical prompts (if the child is young, guiding their placement for example), while still modeling and beginning to include verbal narration and gesturing prompts. You can begin the fading once the child can set up the table with only verbal/ gesturing assistance needed. You will then continue to limit the verbal and gesturing prompts until the child can set up a table on his/her own without any prompts within a reasonable amount of time. Also, use prompt delay. Ask the child to set the table and then give him/her a minute to engage in the correct behavior. If done correctly, no prompt is needed. If not done correctly, use the appropriate prompt for the situation and depending on where in the learning process you are.
10. Programming would allow for the social behavior to generalize to multiple environments at school. The friend could use a verbal prompt to remind you to be social in, say, your English 101 class, then once established, fade it and move on to another location/ situation in school, such as at a student union building or during another larger (or somehow different) class. You will also likely want to generalize the behavior beyond just the school setting. First, at school (a blanket term) there are multiple environments you could be in such as the classroom, walking across campus, standing in line waiting for food, being on the bus, being at a football game, etc. You would want to make this behavior in all situations. Second, many of these environments will be similar outside of school such as waiting in line at the DMV or at a store, walking by strangers on the street, or going to a sporting event for a professional team. Since you have made response in

similar situations at school, you should generalize easily and family and friends at home can provide prompts if you do not.

Exercise 8.1

1. A. Reducing hand flapping behavior (e.g. of a child with autism):
 - Define behavior – 1 instance of hand flapping on the floor when overwhelmed by stimuli
 - From baseline data/ functional assessment observed that hand-flapping occurs on average for 3 minutes after the child is asked to do something he/she does not want to do;
 - Starting point – limit hand-flapping to 2.5 minutes, then reduce by 30-second increments until no/rare hand-flapping occurs;
 - Reinforcer – a piece of candy, more time with a favorite toy, less homework (unless this was something that was already reinforcing the hand-flapping), praise;
 - Continue at 30-second increments every day, or less if needed, to avoid forcing the child.

- B. Language development (learning verb conjugations)
 - Define behavior – learning verb tense conjugations in Spanish;
 - From baseline data/ functional assessment determined that should start with verbs already know well in Spanish;
 - Starting point – begin with learning past, present, and future tense of 2 words, increasing verb tenses learned by 2 words at a time;
 - Reinforcer – self-praise or encouragement from others, more time on games, piece of candy, etc.;
 - Continue at 2-verb increments every day (can adjust to avoid forcing the process or making it challenging enough).
 - Or you could set up the shaping steps as learning basic vocabulary words, present tense and how to conjugate, then move to more advanced words and verb tenses and introduce irregular verbs.

- C. Getting a child to try a new food (be open to new experiences)
 - Define behavior – eat 4 tablespoons/ ¼ cup of a new vegetable or fruit;
 - From baseline data/ functional assessment observed that child currently only eats baked sweet potato and squash, bananas, or apple sauce once a day;
 - Starting point – introduce a ¼ cup of slices apple once a day, then increase the amount or times per day; then in 3-day increments introduce another new vegetable or fruit, while maintaining intake of the one previously introduced;

- Reinforcer – a piece of candy, more time with a favorite toy, less homework or fewer chores, praise;
- Continue at 1-2x per day increments every 3-4 days (adjust if needed, to avoid forcing the child).

D. Having a child go from leaving late for school to leaving 5 minutes early

- Define behavior – leaving home for school;
- From baseline data/ functional assessment observed that child currently leaves 10 late for school;
 - Starting point – have the child leave no later than 8 minutes late for school, then decrease by 2-minute increments each (or every other) day until leaves on time; then, have the child leave home early by 1-minute increments each day;
- Reinforcer – a piece of candy, more time with a favorite toy, less homework or fewer chores, praise;
- Continue at 2-min (when late and 1 min when need to be early) increments per day (or every other day) (adjust if needed, to avoid forcing the child).

E. Increasing the quality of an employee's job performance

- Define behavior – number of tasks completed error-free;
- From baseline data/ functional assessment observed that employee currently has on average 5 tasks per day on which he makes major errors;
 - Starting point – have the employee complete 1 task error-free per day, then increase at 1-task error-free every other day;
- Reinforcer – praise from boss and co-workers, getting a free coffee from boss/ co-workers, 5 extra minutes for break or lunch;
- Continue at 1-task error-free increments every other day (adjust if needed, to avoid forcing the employee).

2. With the fear of snow, systematic or in-vivo desensitization would be useful. If it snows only in the winter where your friend lives, then the systematic desensitization might be more appropriate, since it does not require the presence of the feared stimulus (i.e., snow). Regardless of the type of desensitization, you would first need to teach your friend some relaxation techniques (e.g., diaphragmatic breathing, progressive muscle relaxation, etc.) and then create a hierarchy of situations involving snow from least distressing to most distressing. Then exposure exercises will begin: With systematic desensitization all exposures are done imagining oneself in a situation with a fearful object/situation (e.g., imagining oneself looking outside at snow) gradually increasing in intensity (to imagining touching the snow and holding it in one's hand). With in-vivo desensitization, one experiences the feared situation/object more directly (e.g., look at snow outside through a window), yet, gradually as well (to actually touching the snow/ picking it and making a ball). Throughout the exposures you will also want to encourage the friend to practice relaxation exercises and keep track of distress levels to notice that they subside

after a certain period of exposure. An example systematic desensitization hierarchy for fear of snow:

- a. Imagine watching a TV show on snow storms;
- b. Imagine looking at snow outside;
- c. Imagine opening your door and seeing snow falling outside;
- d. Imagine walking outside and feeling snow fall on your clothes;
- e. Imagine holding up your palm and looking at snowflakes as they fall into your hand; etc.
- f. Final goal – imagine picking up handful of snow and making a ball and holding it for a few seconds;

Note: you could also use flooding, although she would have to do it with a professional and when snow is available for several hours.

3. See #2 for employing relaxation strategies and in-vivo desensitization. In-vivo desensitization or flooding would be most appropriate since darkness is a very common state and fear of it would be very impairing. With in-vivo desensitization you could start the hierarchy with an exposure to dim light, then proceed to twilight, then cloudy night, starry skies, and then complete darkness. Flooding, however, would be quicker, having taught the client relaxation strategies, you would expose them to complete darkness for as long as it takes for them to feel moderately comfortable in it, while reminding them to use relaxation strategies and continue taking their self-reported distress ratings.
4. You would begin the habit reversal with awareness training, recording every time you tap your foot while sitting or standing. It might be helpful to recruit family or friends to help you with noticing the behavior. You would also want to keep an ABC chart to record the antecedents and consequences of your tapping behavior. This will help you determine the purpose of the behavior and subsequently which competing response to use. Once you have a better awareness of the behavior, you will want to come up with a competing response, such as tightening leg muscles, walking, wearing heavier shoes so it is harder to tap the foot, or doing something else involving whole body or just legs. The next step would be to practice this response even prior to tapping behavior occurring and then every time tapping happens. This is also a good time to recruit family and friends to remind you to perform your competing response every time you have an urge to tap your foot. With their support and your constant practice, it is most likely that the competing response will become generalized to real life and will become the new habit. Finally, you will want to review your progress with a professional to assess your progress.
5. Competing responses for:
 - a. Grinding teeth -> wearing a mouth guard, practicing progressive muscle relaxation, chewing gum or sucking on a hard candy;
 - b. Biting lips -> wearing bitter-tasting or sticky lipstick/ lip balm, chewing gum; eating a lollipop
 - c. Nibbling at pencils -> putting big erasers on pencils' ends, chewing gum or sucking on a hard candy;

- d. Stuttering the word statistics -> saying the word slowly, syllable by syllable; or saying stats instead
 - e. Head tic -> tighten neck muscles every time get an urge;
 - f. Arm jerking -> tighten arm muscles, occupy the arm/ hand with something else (e.g., squeeze a stress ball).
6. First, accept that it is a loss and it is OK to grieve (acceptance based strategies). Second, cognitive restructuring might help deal with guilt:
- a. Keep track of self-blaming/personalizing thoughts on an ABC chart, noting the circumstances surrounding the thoughts (i.e., did something remind you of your son or your self-efficacy? Did it feel like dwelling on it was actually justified – as if you deserve this as punishment?);
 - b. Once you have a good understanding of the circumstances surrounding the cognitions, begin to challenge them (e.g., “was it really my fault?” “should I continue to punish myself for thinking that I am to blame?” “Am I really a bad person because I could not save my son’s life?”), then write down evidence for and against original self-blame thoughts and see if you can come to a more realistic “compromise” (e.g., “while I do miss my son very much and I wish I have told him that more often, it is not my fault that he died.”)
 - c. Continue reminding yourself of the new, more realistic thought, so it becomes internalized and you actually believe it.
 - d. You might need to start with realizing it was not your fault through cognitive restructuring so you can move to acceptance (acceptance based strategies and DABDA – Kubler-Ross)

Exercise 9.1

1. DRO – trying to eliminate squirming by giving a sticker only in the absence of fidgeting for a certain amount of time (10 mins).
2. DRI – the teacher wants to increase her students’ use of their inside voices inside by having them speak softer every time they try to yell (i.e., replacing yelling with incompatible behavior).
3. DRA – want the negativity to decrease - only reinforcing positive comments, while ignoring negative ones, with hopes that negativity will go extinct.
4. DRL – limiting the number of jokes, not eliminating them entirely; set to a full session DRL because cannot exceed 5 jokes for the entire study period.
5. DRI – chewing gum is mostly incompatible with biting nails more appropriate behavior (chewing gum) replaces undesirable behavior (biting nails).
6. DRO – want to eliminate acting out; reward not acting out only after a certain period of time (30 minutes).
7. DRA – want to increase paying attention by answering the student only when she is paying attention during lectures (and ignoring her hand up when she is surfing the web).

8. DRL – parent doesn't want the child to stop all questions, just have fewer of them, so he/she limits them to 4.
9. Using a token economy to reduce procrastination:
 - a. Define 1 behavior = starting on assignment or studying for a test/ quiz 1 day before it is due or it is a test/ quiz date
 - b. Token = 1 poker chip for each 1 day early start on an assignment or studying for a test/ quiz
 - c. Backup reinforcers = fun size candy, a toy from a treasure chest, getting extra credit points, extra minutes of recess
 - d. Exchange rate = 2 poker chips buy 1 fun size candy; 4 poker chips buy a small toy from the treasure chest OR 1 extra credit point; 6 poker chips buy 5 extra minutes of recess OR a medium expense toy from the treasure chest; etc. 20 poker chips buy 10 extra credit points
 - e. Extra points = receive an extra 2 poker chips for turning in 2 or more assignments due on the same day at least 1 day early
 - i. Goals = 1. Turn in all assignments due for all classes 1 day early (extra 2 poker chips)
 2. Turn in all assignments due for all classes 2 days early (extra 4 poker chips)
 3. Turn in all assignments due for all classes 3 days early (extra 6 poker chips)
 - f. Non-contingent events = 1st week – arts and crafts party; 2nd week – pizza party; 3rd week – extra 10 minutes of recess time for everyone
 - g. Exchange schedule = points will be awarded/cashed every Friday during the lunch hour
 - h. Response cost = once the token economy has been established for 2-3 weeks, response cost might be used to make reinforcers only intermittently available until they can be faded out completely.
10. You might use the overcorrection procedure, specifically restitution, and have the child restore the room to a condition that is even better than it was in before the tantrum. This will have to happen once he calms down though (can use time-out to help him calm down).
11. Token economy works best generally for children and it wouldn't work in this case because exam effort can be difficult to define and the token economy difficult to organize, implement, and reinforce in a college classroom (i.e., it might not be practical for the instructor to give out tokens after each time the students apply themselves and then give out the rewards later). What might be helpful instead is to redistribute the amount of points earned in the class so that exams would be worth the majority of points in the class (and doing poorly would result in a lower grade overall). Alternatively (or in addition), giving extra points to those who score higher (e.g., if got 90%+ get extra 2 points, 80-89 = extra 1), might be effective. You could also give students the chance to test out of the final exam for doing well on other exams (i.e. earning at least an A-; NR).

12. It depends – if child’s room has nothing in it that could distract or reward him, then it would be OK. However, it is likely not the case and by being sent to his room, he will console himself with games, toys, other distractions that would serve as negative reinforcers, as supposed to positive punishers. Instead, he should be sent to sit in the hallway or bathroom or somewhere else where there cannot be anything that would distract him or serve as a reinforcer for avoiding the chore. It might also be worth to gradually take away his privileges, if he continues to act out, especially after time out, or if he is older. Also, the student is likely acting out to get into trouble and be sent to a time out (whether exclusionary or non-exclusionary) since he does not like to clean the house. The punishment is actually a NR.