

Chapter 2

Conceptual Work Sheets for

Reinforcement

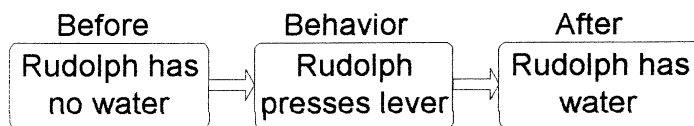
On the one hand, as you travel along the road to an understanding of behavior analysis, we recommend rote memorization of the definitions and even the key features of the examples. But, on the other hand, we think you can reach your destination more quickly, and have more fun along the way, if you also practice using the concepts, principles and definitions in novel, original, creative ways. Then you can get feedback on how much further you have to go. Most students find questions of this sort challenging but interesting. Many say that dealing with these questions is the first time they've had to think since they've been in college, or grad school! They also say they're happy to see how much they enjoy really thinking.¹

(Just a little note – in this and future homework, the terms "response" and "behavior" will be used interchangeably.)

The Skinner Box

Let's start with a very basic example in the Skinner Box. Rudolph the water-deprived rat is placed in the box. After some time he wanders over to the lever and presses it with his paw. Within one second the dipper comes up with a drop of water. Rudolph immediately licks it up.

Here's the contingency:



1. This contingency will _____ the frequency of Rudolph's lever pressing behavior.
 - A. increase
 - B. decrease
 - C. have no effect on
2. This is an example of...
 - A. reinforcement
 - B. an incorrect contingency
 - C. animal abuse

Use the pink Contingency Diagram Criteria as a job aid in working through the next few examples. Use it to determine what, if anything, is wrong with each of the following possible examples of reinforcement.

General Rule: The don't say rule.

Definition: With nonverbal organisms, don't say

- expects,*
- knows,*
- thinks,*
- figures out,*
- in order to (or so that he, she, or it could...)*
- trying to,*
- makes the connection*
- associates*
- learns that,*
- imagines,*
- understands,*
- With any organism, don't say wants.*

3. In the following paragraph, circle the words that fail the don't say rule (6).

Rudolph the water-deprived rat is placed in the Skinner box, expecting some water soon. Of course, because he hasn't had water in 24 hours he wants water and begins trying to press the lever. But he doesn't understand how to press the lever all the way down--even though he has pressed the lever before and knows how. After a couple of sessions he will figure out how to press the lever well.

Here's how we'd change the paragraph above:

Rudolf the water-deprived rat is placed in the Skinner box. Of course, because he hasn't had water in 24 hours, water will be an effective reinforcer and responses reinforced with water in past begin to occur. But so far in shaping the lever press, only turning towards the lever is occurring frequently--and full presses have occurred very infrequently. After a couple more sessions of reinforcement, he will press the lever well.

¹ This homework chapter was revised by Nathalie Witt as partial fulfillment of the requirements for an undergraduate independent study during Fall and Winter 2002-2003.

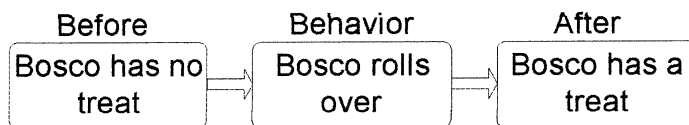
Bosco's Training

My new puppy Bosco is a wild terror. I want to teach him all the basic skills of a well-behaved puppy. There is no way I can afford obedience school, so I decide to use the techniques I learned in my Psy 360 class to train him. I need to start with something simple, let's say, teaching him to roll-over. Those handy little doggy treats will be useful here.

I tell Bosco to roll over. Immediately after he does, I give him a treat.

Take a look at the contingency diagram. Pay close attention because eventually we'll be asking you to diagram your own example.

Refer back to this diagram for the next set of questions.



4. The Behavior Test - If you keep your eye on the behavior, you are less likely to make mistakes. Who is the behavior? Who is doing the behavior?
 - A. Bosco
 - B. Me
5. The Receiver Test - Is the behavior the receiver of the outcome?
 - A. Yes - Bosco is the receiver of the treat.
 - B. No - Bosco is not the receiver of the treat.
6. Specific-Behavior Test - Is it perfectly clear exactly what action is involved in the behavior?
 - A. Yes - Rolling over is the action involved in the behavior.
 - B. No - Rolling over is not a specific behavior.
7. Dead-Man Test - If a dead man can do it, it isn't behavior. Can a dead man roll over?
 - A. Yes
 - B. No

Note: Yeah, I know a dead man could probably roll over if someone pushed him, but we're talking about an independent behavior here!

8. Action Test - Does the behavior involve an action?
 - A. Yes - Rolling over is an action.
 - B. No - Rolling over is not an action

9. Response-Unit Test - Are there any interruptions of greater than 60 seconds during the response (Bosco rolling over)?
 - A. Yes - There are interruptions greater than 60 seconds.
 - B. No - There are no interruptions greater than 60 seconds.
10. Related Outcomes Test - Is the before condition opposite of, or at least related to, the after condition?
 - A. Yes - The before condition is opposite of the after condition.
 - B. No - The before condition is not the opposite of the after condition.
11. Sixty-Second Test - Does the outcome follow the response by more than 60 seconds?
 - A. Yes - The outcomes follows the response by more than 60 seconds.
 - B. No - The outcome does not follow the response by more than 60 seconds.
12. Causality Test - Is the outcome caused by the response?
 - A. Yes - I gave Bosco the biscuit because he rolled over.
 - B. No - I would have given Bosco the biscuit whether or not he rolled over.
13. Stimulus Test - Is that outcome a stimulus, event, or condition?
 - A. Yes - A biscuit is a stimulus, event, or condition.
 - B. No - A biscuit is not a stimulus, event, or condition.
14. The presentation of the biscuit will _____ the frequency of Bosco rolling over.
 - A. increase
 - B. decrease
 - C. have no effect on
15. Incidentally, is this a reinforcement contingency?
 - A. Yes
 - B. No

(Be sure to keep the meaning of a reinforcement contingency in mind.)

Definition: Immediate, response-contingent presentation of a reinforcer resulting in an increased frequency of that response.

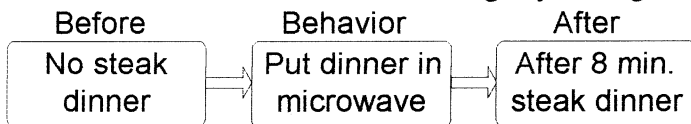
16. Keep this definition in mind to explain why the example of Bosco is a reinforcement contingency. Explain:

Now we are going to look at some “not-so-perfect contingencies.” These may violate one or more of the criteria listed on your pink sheet. Read through the examples and analyze the diagrams. Be picky, just because it makes sense doesn’t mean it’s diagrammed correctly.

Dinner Time

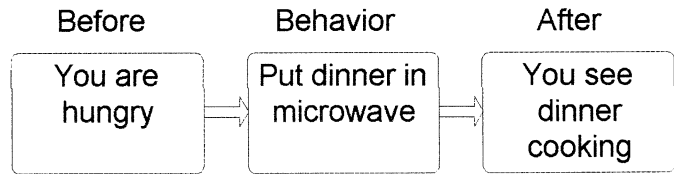
You return from a tiring day of classes, starving for dinner. Being the tasteful gourmet that you are, you pop that Salisbury Steak TV dinner in the microwave for 8 minutes. After what seems like forever, the microwave beeps. You instantly whip that tray out and dig into your yummy meal.

Take a look at this contingency diagram:



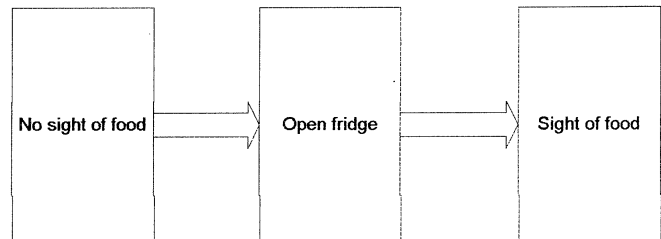
17. Does this contingency meet all 10 criteria on the pink sheet?
- A. Yes
B. No
18. Which of the following criteria is violated in the example?
- A. Action test
B. Stimulus test
C. Dead-man test
D. Sixty-second test

Now take a look at this diagram:



19. Does this contingency meet all the criteria on the pink sheet?
- A. Yes
B. No
20. Which one of the following criteria is violated in this example?
- A. Specific-behavior test
B. Receiver test
C. Related Outcomes Test
D. Action test
E. None of the criteria are violated.

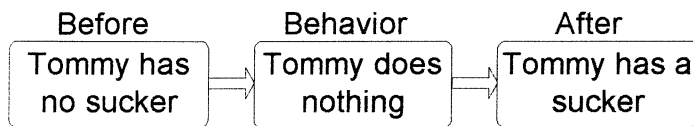
Here’s another attempt at diagramming the same situation. Let’s be more specific and deal with just the behavior of looking in the fridge for your dinner. You are without your favorite steak dinner, but after you open the fridge, the sight of the steak dinner brings a smile to your face. For the sake of the example, let’s just assume you love steak dinner!



21. Does this contingency meet all the criteria on the pink sheet?
- A. Yes
B. No
22. Is this an example of reinforcement?
- A. Yes
B. No
23. So you will be _____ likely to open the fridge in the future.
- A. more
B. less
C. This contingency will have no effect on my behavior.

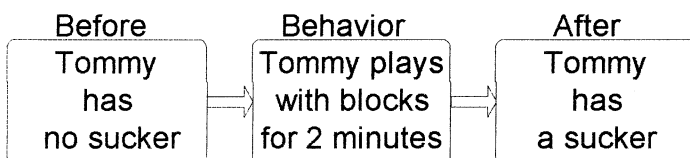
Wild Child

Tommy is a spunky four year-old getting ready to attend his first day of preschool. His mother couldn't be more proud of little Tommy. To make sure he will be ready for his first day, Mom has been teaching him small lessons at home. Unfortunately, these lessons sometimes get interrupted when the telephone rings. When this happens, Tommy's mother gives him his playing blocks and says, "Tommy play quietly". If Tommy stays on task for two minutes, his mother immediately gives him a sucker as a reward (which Tommy loves). In this situation there are no interruptions of more than sixty seconds in the contingency. Let's analyze Tommy's behavior.



24. Is this a correct analysis of Tommy's behavior (i.e. Does it meet all the criteria)?
- A. Yes
 - B. No
25. Which of the following criteria is violated in this example?
- A. Related Outcomes test
 - B. Receiver test
 - C. Dead-man test
 - D. Stimulus test

Another way to diagram this contingency that may pass all the criteria is this²



26. Is this a correct analysis of Tommy's behavior?
- A. Yes
 - B. No

27. Which of the following (if any) of the criterion are violated?
- A. Action test
 - B. Sixty-second test
 - C. Response-unit test
 - D. None of the criteria are violated.

If you chose D, you are correct. It does not fail the 60 second test because the sucker immediately follows the response. It does not fail the response-unit test because there are no breaks during the response.

Noncontingent Reinforcers

What would happen if Tommy's mom gave him a sucker every time the phone rang, whether or not he was quiet? In this case, the sucker is an example of a noncontingent reinforcer, because it is given to Tommy whether or not he is loud. In such a case, we say that the reinforcer is delivered *independently* of behavior. Remember a contingency is a causal relationship, so a non-contingency is the opposite.

28. Given your expertise, what do you think will happen if Tommy's mother continues to give him suckers whether or not he yells?
- A. Tommy will yell more often.
 - B. Tommy will yell less often
 - C. Noncontingent delivery of suckers would not affect Tommy's yelling.

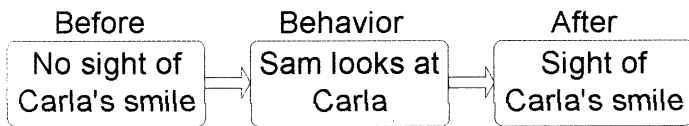
The problem Tommy's mother doesn't understand is that she needs to make reinforcers *contingent* on the behavior she wants to increase (playing quietly). In others words, the sucker must be *contingent* on Tommy's quiet behavior.

Food For Thought

- Don't reinforce people, reinforce behavior.

Given those words to live by, let's talk about Sam. Sam has a huge crush on Carla and stares at her from time to time in class. One day Sam was caught off guard staring at Carla for too long. She looked up and when their eyes met, she instantly flashed him a huge smile. Like most love-struck students, this big smile made Sam very happy. Now every time Sam looks at Carla, she smiles back. You can bet Sam's behavior of looking at Carla increased, because he wants to see that beautiful smile again and again. Here's the contingency:

² Incidentally, there is an alternative analysis of this contingency on Tommy's behavior. It may be that Tommy's mother would give him a sucker no matter what he did, as long as he didn't go off task, we call this punishment by the prevention of the presentation of a reinforcer. But don't worry about that for now, we'll see it in detail in Chapter 16.



29. Which of the following criteria is violated?
- Sixty-second test
 - Response-unit test
 - Action test
 - None of the criteria are violated.
30. Is this an example of reinforcement?
- Yes
 - No
31. What was reinforced by the sight of Carla's smile (remember the rule)?
- Sam
 - Sam's behavior of looking at Carla
 - Carla's smiling at Sam
 - Nothing, this is not reinforcement

By the way, looking is behavior though, perhaps seeing is not, even though seeing does pass the deadman test (e.g. the Clinton defense. I was oriented to the speaker, but I wasn't listening). However, seeing is electrical activity and yet it is not behavior.

Lets take a closer look into this aspect. For the sake of the example, lets just say you love cats. As you are sitting in your favorite section of the couch, your loving cat leaps from the floor onto your lap. She walks around for a moment before laying down in your lap, she begins to purr very loudly. As soon as she starts purring, you reach over to the side table and grab a cat treat, a most prized reinforcer for any cat. You can be sure that the cat's behavior of purring increased, because of the reinforcing power of the cat treats.

32. Ok, now it's your turn. Circle all the statements that fail the rule, **Don't reinforce people, reinforce behavior!!!**:

- I reinforced Sam for looking
- Tommy was reinforced then yelling increased
- Tommy was reinforced for doing nothing
- The treat reinforced Bosco's rolling over
- I was reinforced for putting dinner in the microwave
- The treat reinforced Bosco
- Carla's smile reinforced Sam's looking
- Rudolf is reinforced best when water deprived

Digging in deeper

- A is incorrect because we should reinforce the behavior of looking, not Sam.
- B is incorrect because Tommy is being reinforced, not a particular behavior
- C is incorrect because here again Tommy is being reinforced, not a particular behavior
- D is correct because the treat reinforced Bosco's behavior of rolling over
- E is incorrect because the statement is reinforcing "I", not a particular behavior
- F is incorrect because Bosco is being reinforced, not a particular behavior
- G is correct because the behavior of smiling reinforced Sam's looking.
- H is incorrect because Rudolf is being reinforced, not a particular behavior

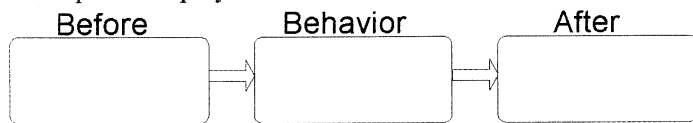
Let The Music Play

Steve is walking to his car in the parking lot, ready to head home from class. As he gets in his car and starts it up, Steve pops his tape into the cassette player. Right away his favorite song plays in the speakers. Steve is now one happy camper as he jams to the tune the whole way home.

(Note: Some students diagram the contingency as follows:

Try to use more observable stimuli. "Happy camper" is not specific enough and not measurable.

33. Diagram the contingency for the behavior of putting the tape in the player.



Now let's check to be sure it meets all the criteria. If any of the criteria are violated, go back and change your example. Really, that's not cheating. That's exactly what we want you to do.

34. Receiver test - Is the behavior the receiver of the outcome?
A. Yes - Steve receives the outcome.
B. No - Recycle the diagram.
35. Specific-behavior test - It is clear what action is involved in the behavior?
A. Yes
B. No - Recycle the diagram.
36. Dead-man test - Could a dead man perform this behavior?
A. Yes - Recycle the diagram. That's not a behavior.
B. No - Steve would at least have to be living.
37. Action test - Does the behavior involve an action?
A. Yes
B. No - Recycle the diagram.
38. Response-unit test - Are there any interruptions of more than 60 seconds during the response?
A. Yes - Recycle the diagram.
B. No
39. Related Outcomes test - Are the before condition and the after condition opposites?
A. Yes
B. No - Recycle the diagram.
40. Sixty-second test - Does the outcome follow the response by more than 60 seconds?
A. Yes - Recycle the diagram.
B. No - Steve gets the outcome immediately.
41. Causality test - Does the response cause the outcome?
A. Yes - The outcome would not occur without the response occurring first.
B. No - Recycle the diagram.
42. Stimulus test - Is the outcome a stimulus, event, or condition?
A. Yes
B. No - Recycle the diagram.

Great! If your diagram meets all the criteria, you have an example of a reinforcement contingency.

Original Example

You have gotten lots of practice with the contingency diagrams. Now it is time to think up your own original example of reinforcement.

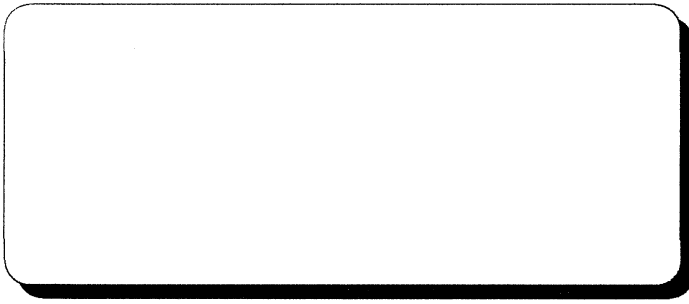
Real student examples:

- Don't use escape contingencies, like turning on the fan in hot weather which escapes the aversive temperature. Or you're hot and take a bucket bath, because that's really an escape-from-an-aversive-condition contingency rather than a reinforcement contingency.
- I have no m&m. ⇨ I read one paragraph ⇨ I get an m&m.
- Koji has no sweet taste. ⇨ Koji puts a lollipop in his mouth. ⇨ Koji has a sweet taste.
- Autistic Donna has no pacifier. ⇨ Donna says a word. ⇨ Donna gets the pacifier.
- I don't have eye contact with the handsome man. ⇨ I look directly at him. ⇨ I do have.
- Beware the Sleaze Test. The Sleaze Test is where you distort your example unnaturally to make it fit the 10 pink-sheet criteria, often in order to have the outcome occur within 60 seconds, when in the real, non-sleazy world the delay might be hours. Also keep your examples real; better a real example that almost but not quite works rather than a clearly artificial example that fits all the pink-sheet criteria perfectly.

How to Be Cool with Your Original Examples.

Be original. Be creative. Be real. Take a chance. Give us interesting original examples. When possible, pull your examples from real life. Make them as different as possible from the examples in the book. Use different behaviors, and different reinforcers, and different contexts. And, if you want to be super-cool, use an example that where your analysis of the behavioral contingencies helps us better understand how the world works (that's hard to do but fun), something, like I never thought of it before, but I'll bet a reinforcement contingency is why that person acts that way, and here's the contingency.

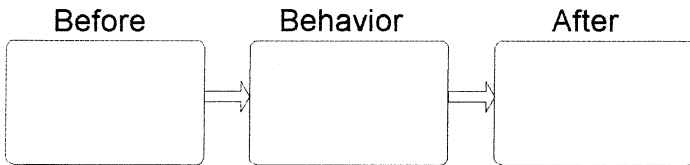
44. Describe your example here:



Note: When you analyze a contingency, first do a contingency diagram of the contingency as described. Even if it's wrong! That way you can then go through our table of criteria to find the problems with it. Then, depending on your goal, you may want to rework the example and do a diagram that would exemplify the revised, correct contingency.

Don't be bothered if you have to rework it a few times, this isn't easy stuff. Some times it takes awhile, but you'll get there.

45. Now diagram your contingency. Be sure to check the pink contingency sheet to make sure it meets all the criteria. *Don't forget to complete a transparency to share with your colleagues in seminar.*



(Remember: In the contingency diagram, the first arrow only means that the before condition precedes the behavior. But the second arrow means that the behavior causes the after condition.)

46. Does this contingency increase the likelihood of the behavior?

- A. Yes
- B. No - If not, rethink your example.

47. Please rate your example:

- A. Amazingly original, I'm a creative genius.
- B. Reasonably original, I deserve credit. (Good job!)
- C. Almost a carbon copy of the examples given in the homework. (If this is the case, try another example)

Important - Transparency Policy!

Since you spend the time generating a novel example and hours analyzing that example, we would appreciate (require) that you create a transparency of your most intriguing, original example. Always keep your examples realistic and be prepared to present them to your behavior-analytical colleagues in seminar. Trust us, this is fun! The master for this assignment is the first one in your set of masters and has two diagrams. You do not need to hand in your transparency with your homework assignment.

TA use only: 48 learning opportunities.