

Chapter 18

Shaping



Topics Covered Within This Chapter

Topics
Defining Features of Shaping
Steps for Shaping
Conditioned Reinforcement with Shaping

One of the most powerful tools that we have in our arsenal as behavior analysts is differential reinforcement. Behavior analysts consistently influence the behavior of our clients by providing reinforcement for one response and not another or differentiating between two responses by manipulating a dimension of reinforcement (e.g., quality). In this excerpt from an article entitled *Reinforcement Today*, Skinner highlights the importance and power of implementing shaping to establish new behavior.

One day we decided to teach a pigeon to bowl. The pigeon was to send a wooden ball down a miniature alley toward a set of toy pins by swiping the ball with a sharp sideward movement of the beak. To condition the response, we put the ball on the floor of an experimental box and prepared to operate the food-magazine as soon as the first swipe occurred. But nothing happened. Though we had all the time in the world, we grew tired of waiting. We decided to reinforce any response which had the slightest resemblance to a swipe—perhaps, at first, merely looking at the ball—and then to select responses which more closely approximated the final form. The result amazed us. In a few minutes, the ball was caroming off the walls of the box as if the pigeon has been a champion squash player. (Skinner, 1958, pg. 94)

This excitement voiced by Skinner should be shared by all behavior analysts because we can positively influence the behavior of ourselves and others. Within this chapter we will cover the defining features of shaping, the steps required for implementing shaping, and using conditioned reinforcement with shaping.

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Defining Features of Shaping

Ensure your supervisees fully understand the definition of shaping, which is differential reinforcement of successive approximations of a target behavior. That is, gradually reinforcing responses that more closely match the target terminal response. Differential reinforcement in the context of shaping requires reinforcement for closer approximations to the terminal behavior as well as extinction for earlier approximations that have been mastered. As an important side note, differential reinforcement does not always include extinction, as it may be the case that the target approximation is followed by a higher quality or higher magnitude reinforcer compared to the earlier approximations (see Chap. 12 for a more in-depth discussion about differential reinforcement). We highlight the use of extinction within shaping because the variability in responding induced by extinction often facilitates the client's engagement in responding that aligns with successive approximations (Nuringer et al., 2001). If earlier approximations continue to contact reinforcement, the learner is less likely to progress to the terminal behavior.

It is also important for supervisees to recognize that shaping can be used to modify multiple dimensions of behavior (Cooper et al., 2020). That is, shaping is not only used to change the topography of the behavior. Rather it can also be used to alter the duration, rate, and other measurable dimensions of behavior. For example, if your supervisee is working with a client learning to request one-syllable items, shaping might be used to change the topography of the response from “bbb” to “ball”; if, however, your supervisee is working on increasing how long the client will sit at the dinner table, shaping would be used to change the duration of the behavior, and the response would maintain the same topography throughout the shaping process.

Steps for Shaping

You will want to ensure that your supervisees can effectively implement shaping using the following steps (see Cooper et al., 2020 for an in-depth discussion of steps). First, your supervisee will need to select a terminal behavior. This includes identifying the specific response in which the client must engage, isolating the dimension which is being altered, and specifying the point at which the behavior will be considered mastered. Your supervisees will need to develop an operational definition of the terminal behavior to ensure all clinicians on the intervention team are reinforcing the same behavior. Next, your supervisee will need to assess the client's current performance with the response. This step must be completed before moving to the next step which is determining the different approximations that will be reinforced. Stress to your supervisees the importance of developing reasonable approximations while also understanding that these may change once shaping is initiated. Returning to the example of sitting at the dinner table, before initiating the

shaping procedure your supervisee might specify that target approximations will be 15 seconds, 30 seconds, 1 minute, 2 minutes, 4 minutes, 8 minutes, and finally 10 minutes. However, if after transitioning from 15 seconds to 30 seconds challenging behavior is observed, your supervisee should be flexible and consider altering the approximation to a shorter time increase. Following the development of target approximations, your supervisee must develop criteria for progressing from one approximation to the next. The criteria must be stringent enough to ensure the client is successful without inadvertently over strengthening the response. Your supervisee must also identify a potent reinforcer which will be provided contingent upon correct responding. Once the shaping procedure is introduced, your supervisees must ensure all individuals working with the client are on the same page regarding the differential reinforcement procedures. That is, there should be consistency with the reinforcement of a specific approximation and extinction for mastered approximations. The supervisee will use the data to make decisions regarding progressing from one approximation to the next and any modifications to approximations that must be introduced.

Conditioned Reinforcement with Shaping

As stated within the steps for implementing shaping, identification of a potent reinforcer is necessary before shaping can begin. There are instances in which the contingent application of reinforcement can be disruptive during the shaping process. For example, if your supervisee is shaping up the behavior of independently walking down a hallway, presentation of a tablet after every two steps would impede further engagement in the behavior of walking. In these instances, providing a less disruptive conditioned reinforcer may be ideal. In order to achieve this scenario, the supervisee would repeatedly pair a neutral stimulus such as a click with a potent reinforcer. Eventually, the brief click will function as a conditioned reinforcer and will maintain responding without continuous presentation of a more disruptive reinforcer. This procedure is typically referred to as clicker training; however, when implemented with humans, referring to the procedure as Teaching with Acoustical Guidance or TAG teach may be preferable (Quinn et al., 2015). Returning the example of shaping the behavior of walking down the hallway: (a) the supervisee would first sufficiently pair the click with a reinforcer, (b) then after the client takes two steps the supervisee would click, (c) after another steps the supervisee would click again, (d) and every so often the click will be paired with the back-up reinforcer. It is imperative to pair the stimuli every now and then to maintain the effectiveness of the click as a conditioned reinforcer. The same steps of shaping apply here as the only difference is the contingent reinforcer.

Group Supervision Meeting

Below is a plan for activities to incorporate into a 1-hour meeting with a small group of supervisees.

Group Supervision Meeting Agenda

Time	Activity
0:00–20:00	Review Major Concepts
20:00–40:00	Shaping Peer’s Behavior
40:00–55:00	Develop Shaping Plan
55:00–60:00	Knowledge Check



Materials Needed



- Appendix A: *Shaping Planning Guide*, 1 copy per supervisee
- Appendix B: *Shaping Planning Guide Example*, 1 copy per supervisee
- Appendix C: *Shaping a Peer’s Behavior*, print copy and cut out cards
- Appendix D: *Designing a Shaping Protocol*, 1 copy per supervisee
- Appendix E: *Shaping Procedural Fidelity Checklist*, distributed electronically to be used for homework
- Appendix F: *Shaping Data Sheet Template*, distributed electronically to be used for homework
- Means to Record Role Play (e.g., tablet, smartphone)

Reading Assignments

At least 1 week prior to the group supervision meeting, assign your supervisees to read about the subject. Below is a list of recommended assigned readings.

- Athens et al. (2007)
- Fonger and Malott (2019)
- Hodges et al. (2017)

Review Major Concepts

Begin your group supervision by reviewing the major concepts associated with shaping. Because some of the concepts, such as differential reinforcement, have been previously covered, this review can be fairly quick to allow for more time for activities. Begin the discussion by asking supervisees to define the term differential reinforcement. Be sure that your supervisee’s definition is not limited to *reinforcing*

one response, but not another response. While this is in fact an example of differential reinforcement, differential reinforcement can take on other forms. A more comprehensive definition of this term encompasses the fact that differential reinforcement can be applied to a single response, differentiating reinforcement based on a dimension of the behavior. For example, differentiation reinforcement based on the duration or rate of the response. Moreover, the definition should also encompass the fact that differential reinforcement is not limited to one response contacting reinforcement and the other contacting extinction. In fact, differential reinforcement may also involve reinforcing both behaviors, but providing a higher quality or magnitude of reinforcer for one response relative to the other. It is important to point out to your supervisees that within the context of shaping, there may be a benefit of implementing extinction within a differential reinforcement procedure. Extinction-induced variability may actually result in the client displaying coincidentally emitting a response that is a closer approximation of the terminal behavior. Next ask supervisees to describe examples of their use of differential reinforcement with a client. Ensure their descriptions match the concept of differential reinforcement and correct any misconceptions about differential reinforcement that may become apparent as they describe their use of it.

Shaping Definition

After reviewing differential reinforcement, define the term *shaping* for your supervisees: differential reinforcement of successive approximations of a target behavior. Ask them to break down the definition by calling on someone to define the terms *successive approximations* and *target behavior*, in the context of this definition. To ensure that supervisees have a good grasp of the concept of shaping, ask them to break into groups of two to three supervisees. Instruct them to pretend that a caregiver asked them to explain shaping and they have to provide a simple, lay explanation that they can share to this caregiver in 1 minute or less. They should only need a few minutes to perfect their response the hypothetical caregiver question. When they have done so, ask each group take a turn sharing their response. As they describe shaping to the hypothetical caregiver, listen for any evidence of understanding or misunderstanding of the concept of shaping. Specifically praise definitions that (a) accurately encompass the concept of shaping and (b) are in lay terms that a caregiver could easily understand. Follow-up with questions or correction if their definition suggests they may not fully grasp the concept of shaping. Close the discussion of the concept of shaping by identifying the various dimensions by which a behavior could be shaped: topography, rate, duration, latency, interresponse time (IRT), and magnitude. Provide an example of each. Here are some examples, but feel free to create your own that best fit the clientele and settings in which your supervisees practice.

- **Topography:** A child who cannot yet draw shapes such as a circle may first be reinforced for gripping a crayon, then making any mark on the page, then making a line at least 1 inch long, then drawing an arc, and finally drawing a circle.
- **Rate:** A young adult who is completing vocational training at a restaurant may be reinforced for rolling silverware at a rate of one set of silverware rolled every 2 minutes, but then one set per 1 minute, and then two sets per minute, and finally three sets per minute.
- **Duration:** An adolescent who is learning to work on homework for extended periods of time may first be reinforced for sitting at his desk and actively engaged in homework for 3 minutes, then 6 minutes, then 9 minutes, then 12 minutes, and finally for 15 minutes.
- **Latency:** A young adult applying for new jobs may first be reinforced for answering job interview questions in a role-play scenario with a 5-minute delay between question and answer, then decrease to a 3-minute delay, then a 1-minute delay, and finally a 30-second delay.
- **IRT:** An elementary student who is capable of completing his homework assignment, but finds the assignment to be aversive may first be reinforced for completing a 10-problem mat worksheet with a 2-minute IRT between problems, then decreased to a 1-minute IRT, then a 30-second IRT, and finally a 15-second IRT.
- **Magnitude:** A young child who talks at a volume much higher than his peers may first be reinforced for keeping his voice below 75 dB, then 70 dB, and finally 65 dB.

Involve your supervisees in identifying examples of behaviors to be shaped on topography, rate, duration, latency, IRT, and magnitude. Break them into the same small groups of two to three supervisees. Ask them to identify one to two client behaviors per dimension (topography, rate, duration, latency, IRT, and magnitude) for which they may use shaping. Give supervisees about 4 minutes to discuss examples in their small group, then return to the full group format. Ask groups to volunteer examples.

Steps to Shaping

Transition your conversation from types of shaping, to the process of shaping. Review the following steps to shaping with your supervisees:

1. Select and operationally define the terminal behavior.
2. Assess the client's response repertoire.
3. Select the initial behavior to reinforce
4. Project potential successive approximations that may be emitted and reinforced.
5. Select a reinforcer.
6. Reward successive approximations
 - (a) Proceed gradually.
 - (b) Limit number of reinforced approximations
7. Continue reinforcing the target behavior. Plan to thin the schedule of reinforcement.

As you review these steps, highlight the following recommendations for each step. The first step is to not only select the terminal behavior, but also operationally define it. The operational definition not only allows your supervisees to know it when they see it, but also helps them think through the various dimensions of the response that may need to be shaped to reach the terminal behavior. For example, if the operational definition includes a description of the duration, this will indicate to the supervisee that duration may need to be shaped. When summarizing step two, point out that the assessment informs the next two steps. That is, an assessment allows the clinician to observe the behaviors in the client's current repertoire in order to identify the initial response to reinforce (Step 3). The assessment also provides the clinician with information about the gap between the current repertoire and the terminal behavior, which can guide the clinicians in projecting the successive approximations that may occur throughout the shaping process. It is important to point out here that it is simply impossible to predict with accuracy the exact approximations needed to reach the terminal goal. In fact, the projected approximations will be a fluid list, changing throughout the shaping process as the clinician observes the behavior transforming. For Step 5, remind supervisees of effective methods for selecting potential reinforcers and evaluating reinforcer efficacy (see Chaps. 8 and 12 for more information). Finally, shaping begins with Step 6. Remind supervisees that shaping can be a slow process because it is dictated by the learners' behavior. Gradual shaping ensures that each successive approximation is observed and reinforced. On the other hand, it is important to note that the gradual process should not be interpreted as direction to remain at a specific approximation for too many trials. In fact, continuing to reinforce too many occurrences of an approximation may hinder the client's progress in emitting the next successive approximation. Finally, Step 7 refers to the final step in shaping in which the clinician continues to reinforce the terminal behavior once it is achieved; however, it is likely that the schedule of reinforcement will eventually be thinned to one that can be maintained in the client's typical environments.

Planning for Shaping

Share with your supervisees the *Shaping Planning Guide* found in Appendix A either by distributing hard copies or presenting via PowerPoint or a similar-style presentation. Carefully describe each component of the planning guide and how to use this guide in practice. Next share the *Shaping Planning Guide—Example* (Appendix B) so they can see the document in action. Explain that they will use a similar guide in planning shaping in upcoming supervision activities and encourage them to ask questions about the document at this time.

Additional Shaping Components

In practice, your supervisees will likely combine shaping with additional behavior analytic techniques. It is important to note here that it is critical that your supervisees can distinguish between the individual treatment components combined for a single intervention. Specifically, they should be able to isolate the components that represent the concept of shaping and those that do not. That being said, it is worthwhile to briefly discuss additional components that are frequently combined with shaping to enhance the success they have in implementing shaping in practice.

The most common technique combined with shaping is prompts and prompt fading. Share the following examples of shaping with your supervisees and ask them to identify two to three prompts that may facilitate the client in demonstrating some of the projected successive approximations to the terminal behavior.

- **Example One:** Evelyn is learning to brush her teeth independently. The initial assessment indicates that she can physically maneuver the brush around her mouth to effectively brush her teeth, it also indicated that she brushes her teeth for only 20 seconds. The terminal behavior goal is to brush her teeth for 120 seconds. The projected approximations are to increase teeth brushing by increments of 10 seconds.
- **Example Two:** Porter is learning to answer the phone using the restaurant's official scripted response, "Hello, Dottie's Diner. This is Porter. How may I help you? Currently, Porter answers the phone by saying "Hello" at a barely audible volume. The projected approximations include increasing the volume to about 65 dB by 5 dB increments and increasing the script one word at a time.
- **Example Three:** Greyson is learning to complete tasks independently in the classroom. When Greyson's teacher, Ms. Delaney, tells the students to get their lunchboxes and line up for lunch, Greyson takes about 3 minutes to do so. The terminal goal is for Greyson to get his lunchbox and line up within 45 seconds to do so. The projected approximations are to decrease the latency in increments of 15 seconds.

Shaping a Peer's Behavior

During the next 20 minutes of group supervision, lead your supervisees in an activity that will not only will bolster their understanding and correct application of shaping, but will surely lead to a few laughs. Before beginning this activity, you will need to cut out the terminal behavior card options found in *Shaping a Peer's Behavior* (Appendix C). You may also provide another means for presenting those terminal behavior options so that supervisees can randomly select one (e.g., an online wheel of choices or lottery system). Do not show supervisees the terminal behavior options until instructed to so; see below.

Divide your supervisees into groups of two to four supervisees. Assign one supervisee in each group to role-play as the client and the remaining one to three supervisees to be members of the *shaping team*. Explain to the supervisees that each team will be responsible for shaping their client's behavior. The client will be unaware of the terminal behavior. During this role play, the learner will be reinforced by exactly three quick claps (i.e., conditioned reinforcer). Explain that when delivering the reinforcer, the magnitude and rate of the claps should be held constant as changes in those dimensions will not affect the efficacy of the claps as a reinforcer. Explain that the purpose of this activity is to improve their ability to shape a behavior; therefore, no prompts will be allowed. This includes verbal instruction and modeling of desired responses. Allow your supervisees to ask questions and then instruct those supervisees role playing as the client to leave the room, ensuring that they are far enough removed from the shaping team so that they cannot overhear their planning conversation.

Distribute a blank, hard copy of the *Shaping Planning Guide* (Appendix A). Provide the shaping team with about 5 minutes to plan how they will shape the behavior. Remind supervisees that successive approximations are only project and that they may need more or less approximations than the form provides. When they have established a plan, randomly call the first supervisee role playing as the client to come back to the room.

When the supervisee role playing as the client returns, remind all supervisees that there will be no instructions or prompting during the activity. Also, remind them that only three quick claps serve as reinforcement and all other responses should be placed on extinction (i.e., not contact the reinforcement of three quick claps). Further, inform your supervisees that this is not a game of Hot and Cold. Claps should not increase in magnitude, rate or frequency as the client's behavior gets "warmer" nor should claps decrease in magnitude, rate or frequency as the client's behavior gets "colder." Rather, three quick claps should be delivered contingent upon any response that is should contact reinforcement according to the plan. Now, let the fun begin!

It is important to note here that you will likely need to monitor their performance to ensure they are following your instructions because, in our experience, supervisees get so invested in this game that their excited leads them to forget the purpose of the activity is to practice shaping in isolation. Of course, this is never malintent, simply getting carried away. But if the activity is to have value, they will need to be reminded and redirected to only use shaping throughout the activity. That being said, we have also experienced supervisees getting stuck in a rut mid-shaping. If given unlimited time, the shaping process would eventually result in the terminal behavior, you may need to occasionally deliver a prompt to the supervisee role playing as the client to keep the activity within a reasonable time frame. After the first client emits the terminal response, praise supervisees for accurate implementation of shaping and correct any errors observed. Next, allow other groups to have their turn.

Developing a Shaping Plan

During the next 15 minutes of group supervision, lead your supervisees in a shaping plan for a client with which they are currently working. Distribute the *Designing Shaping Protocol* (Appendix D), either a hard copy or electronic copy for use to develop this plan. In the case that your supervisee is not working with a client who does not have a current goal well matched to shaping, you can pair that supervisee with a client who does have a current goal well suited to be addressed with shaping. However, there are many drawbacks of completing this activity for another supervisee's client, so reserve this option only for when necessary. During the 15-minute activity, approach each supervisee to offer assistance, answer questions, and correct any errors you observe. End this activity by distributing *Shaping Procedural Fidelity Checklist Template* (Appendix E), which will be needed for the homework assignment.



Knowledge Check

1. True or False: Differential reinforcement means that one response is reinforced while the other is placed on extinction.
2. Name the six dimensions of behavior that can be shaped.
3. What is at least one intervention commonly combined with shaping?
4. What is the purpose of assessing your client's behavior prior to planning and implementing shaping?
5. Explain why you should limit the number of response approximations that are reinforced for each successive approximation?



Homework for Individual Supervision without a Client

1. Review and practice the shaping protocol they developed at the end of the group supervision meeting.
2. Develop a procedural fidelity checklist that corresponds to the shaping protocol they developed at the end of the group supervision meeting. See Appendix E.
3. Develop a data sheet (see Appendix F for a template) that corresponds to the shaping protocol they completed at the end of the group supervision meeting.

Individual Supervision Meeting Without a Client

Below is a plan for activities to incorporate into a 30-minute meeting with an individual supervisee.

Individual Supervision Meeting Without a Client Agenda

Time	Activity
0:00–8:00	Review Homework
8:00–30:00	Role-Play Shaping with Feedback



Materials Needed



- Supervisee-developed shaping protocol
- Supervisee-developed shaping procedural fidelity checklist
- Supervisee-developed Shaping Data Sheet, two copies
- Technology to record role play (e.g., tablet, smartphone)

Homework Review

Begin your session by reviewing your supervisee’s homework. Ask to see their shaping protocol developed in the group supervisions as well as their procedural fidelity checklist and shaping data sheet they developed as homework. Review these documents paying special attention to the following:

- Consistency between the protocol and procedural fidelity checklist.
- Thorough and clear operational definition of the terminal behavior.
- Thorough and clear operational definition of the initial behavior.
- Successive approximations represent changes in the appropriate dimensions that must be shaped between the terminal and initial behaviors.
- A sufficient number of successive approximations are represented so that shaping is neither too gradual nor too speedy that client success may be hindered.
- Reinforcement for target approximations is sufficient for strengthen the response.
- If the supervisee selected to differentially reinforce previously mastered approximations, rather than implement extinction, ask for a justification and confirm this procedural modification is recommended.
- The number of trials of each approximation to be reinforced is so high that it may impede moving from one approximation to the next.


Role-Play Shaping with Feedback

During this role play, you will play the role of their client and your supervisee will use their protocol to shape the target behavior. Record a video of a 5- to 6-minute role play. Begin your role play by demonstrating the initial response, but it is not necessary that your role play involves your reaching the terminal behavior because doing so would present an unlikely scenario rather than a real-life experience. During the role play, be sure to do the following so that your supervisee gets a well-rounded experience that represents the many behaviors that clients may emit during shaping.

- Advance through at least three successive approximations, according to the trials per approximation to be reinforced. This is to evaluate if your supervisee detects and reinforces all successive approximations.
- Emit a logical successive approximation that is not projected or anticipated according to the protocol. This is to evaluate if your supervisee detects and reinforces all successive approximations and maintains a fluid approach to projecting approximations.
- Emit a prior approximation that should contact extinction. This is to evaluate if your supervisee is implementing the reinforcement contingency according to plan.
- Repeatedly fail to advance to a projected approximation. This is to determine if your supervisee will use the protocol in a flexible manner, specifically if they will resume reinforcement of a previously-demonstrated when progress is stagnant.

After the 5- to 6-minute role play, you can your supervisee will observe the video together twice. During the first observation, collect data on the client's behavior. Do so as independently as possible, despite likely being in close proximity while observing from the same screen. At the end of the video, calculate IOA (see Chap. 5). In order to further support your supervisee's data analysis skills, have your supervisee calculate IOA independently. Discuss any disagreements in your data collection. If necessary, review the video to reach a consensus on any disagreements.

After you arrive upon a consensus regarding data measuring the dependent video, watch the video again. During the second observation, ask your supervisee to collect data on their own fidelity of implementation using the procedural fidelity checklist. As you observe this process, continue to praise accurate implementation and correct observed errors. If your supervisee does not recognize an error, identify this immediately. You may need to watch portions of the video again in efforts to ensure your supervisee can accurately identify implementation errors. Upon observing an error, pause the video and discuss what your supervisee should have done differently in that moment. Offer your supervisee the opportunity to role-play just that segment again so they can experience success with this particular step in shaping. Overall, this should be a positive experience for your supervisee, so be sure to sufficiently praise correct implementation, attempting to deliver more specific praise than error correction statements.



Homework for Individual Supervision with a Client

1. If needed, revise the shaping protocol, data sheet, and procedural fidelity checklist.
2. Provide the supervisor with an up-to-date shaping protocol, data sheet, and procedural fidelity checklist to be used at the next meeting. Be sure to specify to your supervisee if you prefer a hard copy or electronic copy.
3. Develop a template to graph the results of shaping session. Be sure to approve the graphing software to be used (e.g., Microsoft Excel).
4. Observe a BCBA implementing shaping (optional).

Individual Supervision Meeting with a Client

Below is a plan for activities to incorporate into a 45-minute supervision session in which you observe your supervisee with a client.

Individual Supervision Meeting with a Client Agenda

Time	Activity
0:00–5:00	Review Homework
5:00–25:00	Conduct Shaping with a Client
25:00–45:00	Performance Feedback



Materials Needed



- Shaping Protocol
- Shaping Procedural Fidelity Checklist
- Shaping Data Sheet
- Supervision Observation Form

Homework Review

Begin your session by having your supervisee review each of the documents: (a) shaping protocol, (b) shaping procedural fidelity checklist, and (c) shaping data sheet. Ask your supervisee to direct your attention to any changes that were made to the document since your last meeting. You may need to conduct this document review prior to the client’s arrival for the session so that you can dedicate your attention to this task.

Conduct Shaping with a Client

Observe your supervisee implementing shaping with a client. During this observation, collect data on the data sheet they provide, and complete the procedural fidelity checklist they provided. It is likely that during your observation your supervisee will spend time addressing other targets and goals, rather than devoting the full 20 minutes to a shaping goal. This is perfectly acceptable. You may use the Supervision Observation Form to provide general feedback that is pertinent to both the portion of the observation in which your supervisee is delivering shaping as well as to the portion of the observation in which your supervisee is addressing other targets and goals. Before ending your observation, ask your supervisee to provide you with access to a copy of their data sheet so that you can quickly calculate IOA.

Performance Feedback

Deliver feedback on (a) IOA, (b) fidelity of shaping implementation, and (c) general observations captured on the Session Observation Form. When delivering feedback, attempt to deliver at least twice as many specific praise statements as corrections. However, be direct about errors committed and provide suggestions for correcting those errors in future implementation. End your feedback session with the opportunity for your supervisee to role-play or ask questions if desired. This session feedback may need to take place after the client is no longer present in order for you and your supervisee to dedicate the attention needed to this feedback session. This is perfectly acceptable, but we encourage you to schedule the feedback session as soon as possible after the observation.

Mastery Criteria

In order to progress from this lesson, your supervisee must do the following when implementing shaping: (a) accurately collect data with at least 80% agreement and (b) implement shaping with at least 80% fidelity. If either of these are not met, a second individual meeting without a client with intensive role play and feedback should be scheduled.



Future Growth

- Observe your supervisee implement shaping with another client.
- Observe your supervisee implement shaping for a different terminal behavior with the same client.
- Have your supervisee identify one journal articles in which shaping was implemented. Ask them to summarize the results of that study in a 5-minute presentation in an upcoming group supervision meeting.

Appendix A: Shaping Planning Guide

Client: _____ Reinforcer(s): _____

Terminal Response Goal (operational definition): _____

Initial Response to Reinforce (operational definition): _____

Trails per Response Approximation: _____

Planning Instructions: Within each column, list response approximation to reinforce in top, yellow-highlighted cell. List the response approximations on extinction (or receiving lower quality reinforcement) below in gray boxes.

Shaping Instructions: Begin in the far left column (Step One). Reinforce the response in the top, yellow-highlighted cell on an FR1 schedule of reinforcement. See the *Trials Per Response Approximation* to determine the number of response occurrences to reinforce. When that reinforcement contingency has been met, move to the next column. Continue reinforcing the response in the top, yellow-highlighted cell on an FR1 using the *Trials Per Response Approximation* guidance. Place all prior approximations listed in the bottom, gray cells on extinction, unless a plan to deliver lower quality reinforcement has been established. Continue until you reach the final column (Step Seven). Note that successive approximations are projected and may need to be changed as the client's behavior changes. Similarly, columns may need to be added or removed to meet the client's needs. Moreover, while the goal is to move from left to right across the columns, at times it may be necessary to decrease expectations by moving from right to left.

Appendix B: Shaping Planning Guide Example

Client: Dylan Reinforcer(s): Token to be used in token economy

Terminal Response Goal (operational definition): Wash hands: After applying soap to hands, rub hands together, so that soap visibly covers both palm, back of hand, and fingers. Continue rubbing hands for 60 seconds, then rinse hands by placing hands under running water until soap is no longer visible on hands.

Initial Response to Reinforce (operational definition): Dylan can apply soap to hands and can rub hands together, but only rubs hands for about 10 seconds and only covers palms with soap. He will rinse hands thoroughly, but too early in the process (i.e., after only rubbing palms together for about 10 seconds.

Trails per Response Approximation: 3

Planning Instructions: Within each column, list response approximation to reinforce in top, yellow-highlighted cell. List the response approximations on extinction (or receiving lower quality reinforcement) below in gray boxes.

Shaping Instructions: Begin in the far left column (Step One). Reinforce the response in the top, yellow-highlighted cell on an FR1 schedule of reinforcement. See the *Trials Per Response Approximation* to determine the number of response occurrences to reinforce. When that reinforcement contingency has been met, move to the next column. Continue reinforcing the response in the top, yellow-highlighted cell on an FR1 using the *Trials Per Response Approximation* guidance. Place all prior approximations listed in the bottom, gray cells on extinction, unless a plan to deliver lower quality reinforcement has been established. Continue until you reach the final column (Step Seven). Note that successive approximations are projected and may need to be changed as the client's behavior changes. Similarly, columns may need to be added or removed to meet the client's needs. Moreover, while the goal is to move from left to right across the columns, at times it may be necessary to decrease expectations by moving from right to left.

Appendix C: Shaping a Peer's Behavior

Terminal Behavior Option Cards

**Shaping a Peer's Behavior
Terminal Behavior Option One:**

The client will remove his/her/their shoe from his/her/their foot and place it on his/her/their head, leaving the shoe on the head for at 5 seconds.

**Shaping a Peer's Behavior
Terminal Behavior Option Two:**

The client will lay on his/her/their back, lifting the right arm and left leg straight up into the air, oriented to the ceiling and outstretching the left arm and right leg onto the ground.

**Shaping a Peers Behavior
Terminal Behavior Option Three:**

The client will touch one wall with a hand, run to the wall on the opposite side of the room, then touch that wall with a hand.

Shaping a Peers Behavior
Terminal Behavior Option Four:

The client will take 10 steps backwards, then spin his/her/their body in a complete circle once.

Shaping a Peers Behavior
Terminal Behavior Option Five:

The client will perform a selected dance move for 10 seconds. Your team can select the dance move and operational definition. Suggested dance move: The Twist, Moonwalk, The Robot, The Carlton, The Floss.

Appendix D: Designing Shaping Protocol

Client: _____

Terminal Response Goal (operational definition): _____

Initial Response to Reinforce (operational definition): _____

Anticipated Successive Approximations:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

Reinforcement for Targeted Approximations: _____

Contingency in Place for Previously Mastered Approximations (circle one):

Extinction

Lower Quality Reinforcer (please specify): _____

Trails per Approximation to be Reinforced: _____

Appendix E: Shaping Procedural Fidelity Checklist

Step		Implemented Correctly? + = Yes - = No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

_____ / _____ * 100 = _____ % of steps completed correctly
Steps Completed Correctly. Total Number of Steps

Appendix F: Shaping Data Sheet Template

Client: _____

Date: _____ Time: _____

Observer One: _____ Observer Two: _____

Goal: _____

Instructions: For each trial, describe the level of approximation and circle if the client performed the behavior correctly and independently or not. Use the final column for additional anecdotal notes, as needed. Calculate percent correct on bottom row.

Trial	Approximation	Performed Correctly?	Notes
1	[insert approximation]	Yes No	
2	[insert approximation]	Yes No	
3	[insert approximation]	Yes No	
4	[insert approximation]	Yes No	
5	[insert approximation]	Yes No	
6	[insert approximation]	Yes No	
7	[insert approximation]	Yes No	
8	[insert approximation]	Yes No	
9	[insert approximation]	Yes No	
10	[insert approximation]	Yes No	
11	[insert approximation]	Yes No	
12	[insert approximation]	Yes No	
13	[insert approximation]	Yes No	
14	[insert approximation]	Yes No	
15	[insert approximation]	Yes No	
16	[insert approximation]	Yes No	
17	[insert approximation]	Yes No	
18	[insert approximation]	Yes No	
19	[insert approximation]	Yes No	
20	[insert approximation]	Yes No	
Percent Correct:			

References

- Athens, E. S., Vollmer, T. R., & Pipkin, C. C. S. P. (2007). Shaping academic task engagement with percentile schedules. *Journal of Applied Behavior Analysis, 40*(3), 475–488.
- Fonger, A. M., & Malott, R. W. (2019). Using shaping to teach eye contact to children with autism spectrum disorder. *Behavior Analysis in Practice, 12*(1), 216–221.
- Hodges, A., Davis, T., Crandall, M., Phipps, L., & Weston, R. (2017). Using shaping to increase foods consumed by children with autism. *Journal of Autism and Developmental Disorders, 47*(8), 2471–2479.
- Neuringer, A., Kornell, N., & Olufs, M. (2001). Stability and variability in extinction. *Journal of Experimental Psychology: Animal Behavior Processes, 27*(1), 79–94. <https://doi.org/10.1037/0097-7403.27.1.79>
- Skinner, B. F. (1958). Reinforcement today. *American Psychologist, 13*, 94–99.
- Quinn, M. J., Miltenberger, R. G., & Fogel, V. A. (2015). Using TAGteach to improve the proficiency of dance movements. *Journal of Applied Behavior Analysis, 48*(1), 11–24. <https://doi.org/10.1002/jaba.191>