Welcome to our Unit 3 Discussion Board lecture! This week you read about chaining. Chaining is important to have in your repertoire because many of our clients need to be taught new, complex skills. Complex skills involve a chain of behaviors. Chaining procedures are used to teach complex skills. Important to chaining is the use of prompting. Prompting is how you get a client from “I don’t know how to do that” to “I did it!” These are the topics we will focus on in this lecture.

As we begin our discussion on behavior chaining, let’s review the behavior chain. Behavior chains represent more complex behavior composed of multiple steps. Complex behaviors have multiple component responses. For example, brushing your teeth includes multiple steps from picking up the toothbrush, to squeezing toothpaste, to rinsing the brush and so on. You wouldn’t use chaining for simple single step behaviors such as drinking a glass of water or picking up a spoon. Shaping would be more appropriate for simple behaviors like those. In addition to being a complex behavior with many components, a behavior chain includes behaviors that must occur in a sequence. Each behavior in the chain can be completed only after the previous behaviors in the chain have been completed in sequence. Each component behavior in the chain depends on the occurrence of the previous behavior. Each response serves as the cue for the next behavior. These sequences of cues and responses are referred to as stimulus-response components. The Miltenberger text gave a great example of a behavior chain - getting a piece of gum. The components of the chain are:

1. Reach into your pocket.

2. Pull out the pack of gum.

3. Pull a single stick out of the pack.

4. Unwrap the piece of gum.

5. Put the gum into your mouth.

Each component is dependent on the previous behavior. You can’t pull a single stick out of the pack without pulling out the pack of gum. You wouldn’t put the gum into your mouth without unwrapping it first. Each subsequent response depends on the previous response and the entire stimulus-response chain is under stimulus control. The stimulus in each stimulus-response component is the discriminative stimulus or s-d. A discriminative stimulus is a cue to a behavior; sets the occasion for a behavior to occur. Each s-d in the behavior chain has a dual role: the cue for the next response and as the conditioned reinforcer for the previous response. It is this dual role of the s-d that creates the links in the behavior chain.

Before chaining can be used, you must first construct and validate a task analysis of the components of the behavior sequence. Having a clear description of the steps to be followed in the chaining procedure is vital. The task analysis acts as your road map when you go to teach the skill. A task analysis is breaking the complex skill down into its individual stimulus-response components. It is important to not just list the steps or the responses in the skill, but to also know the discriminative stimuli that are going to set the occasion for the behaviors. In order for you to train the skill, you must have both components (the discriminative stimuli and the responses). Also, pay close attention to the sequence – you want to make sure you write the stimulus-response components down in the correct sequence. How do you develop a task analysis? You can observe competent individuals perform the sequence of behaviors and record the stimulus response components. You could consult an expert or person skilled in performing the task. Or, you can perform the skill yourself. Performing the skill is preferred because you gain the most information through your experience performing the skill.

In forward chaining, training starts at the first link in the chain. You teach the first stimulus-response component first. The person is taught to complete the step using prompting and reinforcement is provided following the successful independent completion of the step. This component is then joined with the next. Now the person must independently perform step 1 and you train step 2 using prompting and reinforcement. You proceed throughout the chain until the last step is taught. In total task presentation, training occurs on all the behaviors at once rather than joining or adding one link at a time. The entire skill is completed and trained in each learning trial. Oftentimes, physical prompting is needed to guide the learner through the behavior chain. This can be very intrusive and may not be appropriate for every client. In backward chaining, you start with the last link in the chain and teach the last stimulus-response component first. In every learning trial, the client completes the behavior chain. The client isn’t performing the skill backwards and you aren’t teaching them to do the skill backwards. You just start your training at the end. You train backwards through the steps. The instructor completes any behavior not currently being trained or already learned.

How do you actually get a client to go from being unable to perform a step in the task analysis to performing the step independently? Why, you teach the step! Teaching involves prompting and reinforcement. For most learners, we would use least-to-most prompts. This means we use the least prompt level required to get the individual to engage in the behavior. Verbal prompts are the least intrusive prompt. A verbal prompt is saying something to get the learner to perform the behavior. A gestural prompt is the next level. A gesture is a physical movement that gets the individual to engage in the behavior. Modeling is more intrusive than gesturing and involves a demonstration of how to engage in the behavior. A physical prompt is the most intrusive level of prompting. Physical prompting occurs when the trainer physically guides the person to perform the behavior. An example of a sample teaching trial is shown on your screen. We initially present the discriminative stimulus that should have control over the behavior (the sink). If the natural discriminative stimulus fails to cue the response, we then go through our series of least-to-most prompts. We stop prompting as soon as the client engages in the desired behavior. We then re-present the discriminative stimulus. Once a client is performing the skill, we begin to fade our prompts (we want the behavior under the control of the relevant discriminative stimulus, not our prompt). Our goal is for the client to independently perform the behavior when the discriminative stimulus cues the behavior. We want to reinforce independent performance.

Thank you for listening to the Unit 3 Discussion Board lecture!