**Chapter 19: How Dogs Learn**

This chapter will take an in depth look at how dogs learn, the scientific basis of learning theory and operant conditioning, and how these concepts are applied to guide dog training. Remember that training is an ongoing process for the life of your dog, so it can be helpful to understand the reasoning behind the various techniques you are learning in order to continuously work on improving your skills as a handler.

Let's start with a bit of vocabulary. These are words that you may have heard before, but each term will have a specific meaning as we get into the science of dog training. So, let’s define some of the jargon before we move on:

Classical Conditioning – A learning process that occurs when two stimuli are repeatedly paired. The first stimulus will eventually elicit the same response as the second stimulus.

Operant Conditioning – The process or procedure through which behavior is modified by reinforcement or punishment

Reinforcer/Reinforcement - this refers to any stimulus that increases the likelihood that a particular behavior will be repeated

Punisher/Punishment - this refers to any stimulus that decreases the likelihood that a particular behavior will be repeated.

Reward-any stimulus that the animal finds pleasant or enjoyable

Aversive-any stimulus that the animal finds unpleasant or uncomfortable

The essential concepts of Operant Conditioning provide the basis by which we understand how dogs learn. It is divided into four basic principles referred to as quadrants. The first two quadrants serve to increase desirable behavior:

1. **Positive Reinforcement** – Reward is presented immediately following the desired behavior, increasing the likelihood that it will be repeated.
2. **Negative Reinforcement** – An aversive is removed when the desired behavior is achieved, increasing the likelihood that the animal will repeat the behavior in order to avoid the aversive stimulus.

The second two quadrants serve to decrease undesirable behaviors:

1. **Positive Punishment** – An aversive is administered immediately following an undesirable behavior, decreasing the likelihood that it will be repeated.
2. **Negative Punishment** – A reward stimulus is removed in response to an undesirable behavior, decreasing the likelihood that the animal will repeat that behavior.

Balanced training utilizes all four quadrants, with a strong focus on positive reinforcement. Let’s take a look at some examples of how each quadrant can apply to effectively handling your guide dog.

**Positive Reinforcement -** This is the most commonly used quadrant so there are many examples. Any time you offer food reward for correct behavior, you are using positive reinforcement. The use of an event marker (Click or “Yes”) is associated with positive reinforcement.

**Negative Reinforcement -** This quadrant is most commonly utilized with only a mild aversive such as collar pressure. If your dog stands up repeatedly at the dinner table, you might place your foot on the leash in such a manner as to put a bit of downward pressure on the collar. When the dog lies down, the pressure is immediately released, and that release of pressure reinforces the behavior of lying down.

**Positive Punishment -** This quadrant comes into play when using any type of leash correction. If your dog lunges after a squirrel or dives to grab food off the floor, you will immediately administer a leash correction (aversive) to communicate that the behavior is unacceptable. A well-timed, effective leash correction should decrease the likelihood that your dog will repeat that behavior.

**Negative Punishment -** This quadrant can be tricky to use effectively, but one classic example to consider is feeding time behavior. If your dog breaks position as you start to set the food bowl down, and in response you pick the bowl back up, you have effectively removed the promise of reward in order to decrease the behavior of breaking position (Negative Punishment). When your dog then remains in position and waits for your signal to eat, you have effectively shifted back to Positive Reinforcement. This technique is most effective in situations where the dog has previously learned to expect the reward.

 **Why is Positive Reinforcement so important?**

One of the primary objectives in training any animal is to set the animal up for success by rewarding increments of behavior, gradually building a pattern or sequence to establish complete behaviors. For guide dogs in particular, rewarding small successes leads to larger successes and results in more confident and conscientious dogs. By focusing primarily on positive reinforcement throughout training, we are better able to produce dogs that are willing to take initiative and problem solve in situations where the handler may not be able to provide clear direction or support. Guiding Eyes staff has worked hard to establish this in your dogs before you received them, however, you have a responsibility as a guide dog handler to do as much as you can to maintain your dog's willingness, initiative, and confidence. They are not preprogrammed machines. Their training never ends, so now it's up to you to become your dog’s trainer to the best of your abilities. Rewarding desirable behavior as consistently as possible is the most effective way to build trust and confidence in your dog and progress as a team.

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