



DOG TRAINING PRINCIPLES

By Jordan Coulson CPDT-BS, CCFT

The Scientists



Ivan Pavlov (1849-1936)

Pavlov predicted that dogs would salivate in response to the food placed in front of them, but he noticed that his dogs would begin to salivate whenever they heard the footsteps of his assistant who was bringing them the food.



Edward Thorndike (1898)

The Law of effect: Responses that produce a satisfying effect in a particular situation become more likely to occur again in that situation, and responses that produce a discomforting effect become less likely to occur again in that situation (Gray, 2011, p.108–109)."

[Click here for video](#)

<https://youtu.be/ne6o-uPJArA>



B.F. Skinner (1948)

Responses that produce rewards are more likely to reoccur and increase in frequency

**Candy to people that put hand up
Condition behavior**

Pavlov's Theory

Like many great scientific advances, Pavlovian conditioning (aka classical conditioning) was discovered accidentally. Ivan Petrovich Pavlov (1849–1936) was a physiologist, not a psychologist.

During the 1890s, Russian physiologist, Ivan Pavlov was researching salivation in dogs in response to being fed. He inserted a small test tube into the cheek of each dog to measure saliva when the dogs were fed (with a powder made from meat).

Pavlov predicted the dogs would salivate in response to the food placed in front of them, but he noticed that his dogs would begin to salivate whenever they heard the footsteps of his assistant who was bringing them the food.

Pavlov's Dogs Study and Pavlovian Conditioning Explained

When Pavlov discovered that any object or event which the dogs learned to associate with food (such as the lab assistant) would trigger the same response, he realized that he had made an important scientific discovery. Accordingly, he devoted the rest of his career to studying this type of learning.

Pavlovian Conditioning

Pavlov (1902) started from the idea that there are some things that a dog does not need to learn. For example, dogs don't learn to salivate whenever they see food. This reflex is 'hard-wired' into the dog.

In behaviorist terms, food is an unconditioned stimulus and salivation is an unconditioned response. (i.e., a stimulus-response connection that required no learning).

Click here for video

<https://youtu.be/ne6o-uPJArA>



Unconditioned Stimulus (Food) US > Unconditioned Response (Salivate) UR

In his experiment, Pavlov used a metronome as his neutral stimulus (NS). By itself the metronome did not elicit a response from the dogs.

Neutral Stimulus (NS) (Metronome) > No Conditioned Response (O)

Next, Pavlov began the conditioning procedure, whereby the clicking metronome was introduced just before he gave food to his dogs. After a number of repeats (trials) of this procedure he presented the metronome on its own. As you might expect, the sound of the clicking metronome on its own now caused an increase in salivation.

Conditioned Stimulus (Metronome) > Conditioned Response (Salivate):
CS>CR

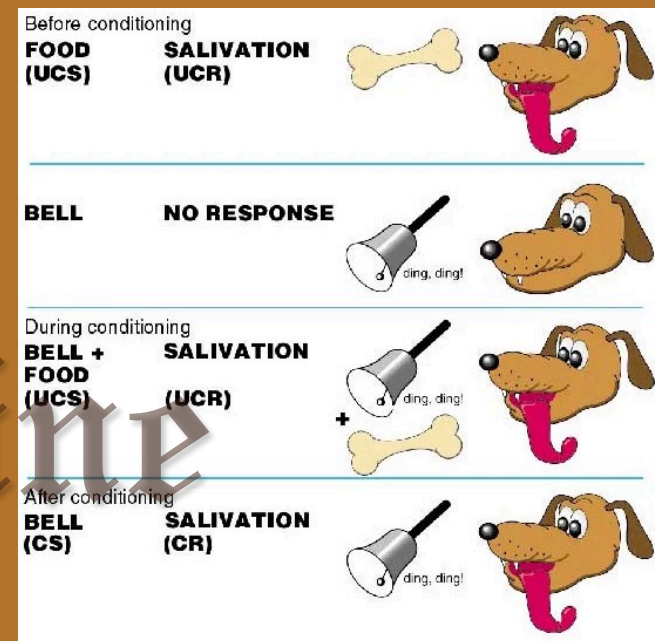
So the dog had learned an association between the metronome and the food and a new behavior had been learned. Because this response was learned (or conditioned), it is called a conditioned response (and also known as a Pavlovian response). The neutral stimulus has become a conditioned stimulus.

Pavlov found that for associations to be made, the two stimuli had to be presented close together in time (such as a bell). He called this the law of temporal contiguity. If the time between the conditioned stimulus (bell) and unconditioned stimulus (food) is too great, then learning will not occur.

Pavlov and his studies of classical conditioning have become famous since his early work between 1890-1930. Classical conditioning is "classical" in that it is the first systematic study of basic laws of learning / conditioning.

Classical Conditioning

[Click for video](#)



Summary

To summarize, classical conditioning (later developed by Watson, 1913) involves learning to associate an unconditioned stimulus that already brings about a particular response (i.e., a reflex) with a new (conditioned) stimulus, so that the new stimulus brings about the same response.

- **Pavlov's Dogs Study and Classical Conditioning Explained**

Pavlov developed some rather unfriendly technical terms to describe this process. The unconditioned stimulus (or UCS) is the object or event that originally produces the reflexive / natural response.

The response to this is called the unconditioned response (or UCR). The neutral stimulus (NS) is a new stimulus that does not produce a response.

Once the neutral stimulus has become associated with the unconditioned stimulus, it becomes a conditioned stimulus (CS). The conditioned response (CR) is the response to the conditioned stimulus.

Classical conditioning is learning through association and was first demonstrated by Ivan Pavlov. Pavlov showed that dogs could be conditioned to salivate at the sound of a bell if that sound was repeatedly presented at the same time that they were given food.

First the dogs were presented with the food, they salivated. The food was the unconditioned stimulus and salivation was an unconditioned (innate) response. Then Pavlov sounded the bell (neutral stimulus) before giving the food.

After a few pairings the dogs salivated when they heard the bell even when no food was given. The bell had become the conditioned stimulus and salivation had become the conditioned response.

The dogs had learnt to associate the bell with the food and the sound of the bell and salivation was triggered by the sound of the bell.

Pavlov showed that classical conditioning leads to learning by association. Watson and Rayner showed that phobias can be learnt through classical conditioning in the "little Albert" experiment.



Thorndike: Law of effect – Operant Conditioning

Whereas classical conditioning depends on developing associations between events, operant conditioning involves learning from the consequences of our behavior.

Skinner wasn't the first psychologist to study learning by consequences. Indeed, Skinner's theory of operant conditioning is built on the ideas of Edward Thorndike.

Thorndike studied learning in animals (usually cats). He devised a classic experiment in which he used a puzzle box (see fig. 1) to empirically test the laws of learning.

He placed a cat in the puzzle box, which was encourage to escape to reach a scrap of fish placed outside. Thorndike would put a cat into the box and time how long it took to escape. The cats experimented with different ways to escape the puzzle box and reach the fish.

Eventually they would stumble upon the lever which opened the cage. When it had escaped it was put in again, and once more the time it took to escape was noted. In successive trials the cats would learn that pressing the lever would have favorable consequences and they would adopt this behavior, becoming increasingly quick at pressing the lever.

Edward Thorndike put forward a "Law of effect" which stated that any behavior that is followed by pleasant consequences is likely to be repeated, and any behavior followed by unpleasant consequences is likely to be stopped.



Operant Conditioning

Consequences lead to changes in voluntary behavior

US - UR

Treat

Salivation

[Video here](#)

NS - O

Metronome/Shake can

No Response

NS - US - UR

Metronome/Shake can

Treat

Salivation

CS - CR

Metronome/Shake can

Salivate

4 quadrants of learning

Understand Positive
& Negative in context

POSITIVE:
THE ADDITION
OF STIMULUS
LIKE GETTING ICE
CREAM IF YOU EAT
ALL YOUR
VEGGIES!

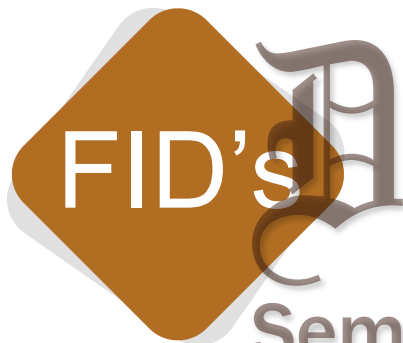
NEGATIVE:
THE REMOVAL
OF A STIMULUS
LIKE GETTING A
NIGHT OFF TRAINING
COS YOU DID SO
WELL IN YOUR
TRIAL!

<p>POSITIVE REINFORCEMENT (R+)</p> <p>ADDS SOMETHING TO INCREASE THE FREQUENCY OF A BEHAVIOR.</p> <p>FOOD</p>	<p>NEGATIVE REINFORCEMENT (R-)</p> <p>REMOVES SOMETHING TO INCREASE THE FREQUENCY OF A BEHAVIOR.</p> <p>RELEASE OF PRESSURE</p>
<p>POSITIVE PUNISHMENT (P+)</p> <p>ADDS SOMETHING TO DECREASE THE FREQUENCY OF A BEHAVIOR.</p> <p>LEASH PRESSURE</p>	<p>NEGATIVE PUNISHMENT (P-)</p> <p>REMOVES SOMETHING TO DECREASE THE FREQUENCY OF A BEHAVIOR.</p> <p>WITHOLD TOY/TREAT</p>

HOW TO TRAIN
A PARTNER TO
VACUUM THE
HOUSE...

Demo Classical
conditioning of a
behavior through
a marker Neutral
Stimulus
and paired
uncontrolled
stimulus

ABC's of dog training



Frequency/Intensity/Duration

We know that learning is taking place and conditioning is apparent when we see frequency/Intensity & Duration are taking place or in effect. This is something you must learn to look and listen for as a trainer

Antecedent

This refers to the conditions or factors that lead to a behavior. When you're trying to figure out what a possible antecedent is, you can ask yourself, "what occurred right before the behavior happened?" *Examples of antecedents include:*

Picking up your dog's harness or collar

A dog suddenly appearing when out for a walk

The trash can left unattended without its lid

Someone ringing the doorbell

Behavior

This may be self-explanatory, but behavior refers to what your dog does in response to the antecedent. When looking at the behavior, try to describe what your dog is doing instead of trying to guess how they are feeling. ("My dog wagged her tail and solicited petting" vs. "My dog was happy.") *Examples of behavior include:*

Jumping and whining upon seeing you pick up the harness

Lunging and barking at the dog on a walk

Feasting on trash from the unattended can

Rushing towards the door and barking at the sound of the doorbell

Consequence

This is what happens to your dog immediately after the behavior. The consequence could be something produced naturally by the environment, or strategically provided by a trainer to either increase or decrease the likelihood of the behavior. *Examples of consequences include:*

You wrestle on the harness and go out for a walk

You jerk on the leash and repeat "no barking"

Your dog enjoys delicious trash

The post delivery person drops off the package and leaves

Whenever we are facing a problem behavior, it's easy to get focused on the B of the ABC equation. Let's look at an example: Jumping on guests



[Click here](#)

**“Boy that escalated quickly.
I mean it really got outta
hand fast”!!**



How dogs learn



Timing

A dog has a period of 1.3 seconds in which to associate cause and effect. Mark in the moment & reinforce. Watch closely.



Consistency

A rule is a rule. The rule of one. If a dog jumps on you consistently reinforce them for doing so. But breaking the rule will teach the opposite often through self rewarding behavior



Motivation

Be more interesting than dirt! Communication channels. Breed/nature based motivation. Food/play/praise



Relationship/ Trust

Any good relationship is built off of trust and clear communication. Eds's Story Vegas

The 4 Stages of learning

Learning occurs when your dog establishes a relationship between a behavior and a consequence. For example, when a dog barks at an intruder (such as the postman) the barking has been reinforced because the stimulus (the Postman) was removed. Known a self rewarding behavior.



Training Techniques

Timing

- 1.3 seconds to learn - Association
- 0.5 seconds to react

**Class Clicker Training*

Positive reinforcement training techniques

- Capturing
- Shaping
- Molding
- Luring
- Targeting
- Modelling

These techniques should be used in conjunction with a marker tool like a clicker. Marker or clicker training can be used on all species. Yep not Yesssss for consistency.

Behavior that is reinforced is more likely to re-occur again in the future - Thorndike

THANK YOU



JORDAN COULSON
(OWNER/TRAINER, CPDT - CPBS)

“DOG TRAINER AND BEHAVIOR SPECIALIST”

PHONE: 022-560-0750 | EMAIL: JORDAN@DEFINECANINE.COM
WEBSITE: WWW.DEFINECANINE.COM

Please feel free to use me as a resource at any stage.