Module 12 : How Dogs Learn

- Similarities & Differences Between Humans & Dogs
- The Humane Hierarchy Model Of Training & Learning
- Natural Reinforcement
- How Dogs Learn From Other Dogs

In this module we will discuss how dogs learn and how dog trainers apply this knowledge when changing dog behaviours. Specifically, we will cover the following points:

- Similarities & Differences Between Humans & Dogs
- The Humane Hierarchy Model Of Training & Learning
- Natural Reinforcement
- How Dogs Learn From Other Dogs
- Personality Differences & Dominance In Dogs

12.1 Similarities & Differences between Humans & Dogs

Dogs do not have verbal language, but they are able to develop a huge repertoire of behaviours by interacting with the world via their senses.

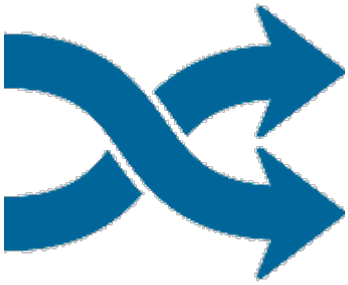
Compared to humans, dogs have a far superior sense of smell, and their hearing is much more sensitive.

Dogs are not as self-aware as humans and do not appear to possess the same capacity for abstract thought and reasoning. A human may learn by consciously reflecting on their past experiences, but a dog does not have this ability. However, there is good evidence that dogs hold mental representations of how they should behave; you have probably observed guilty body language in a dog that is behaving badly, even before it is admonished.

It is also important to note that dogs have a very limited attention span compared to humans. When training a dog, it is best to keep training sessions brief – five to ten minutes is plenty. Beyond this, the dog is liable to become fatigued and distracted.

However, dogs and humans do share some similarities when it comes to learning. Both are capable of learning from non-verbal cues and both can learn complex sequences of behaviour if the right reinforcements are in place. Both will follow the Law of Effect, generally preferring to engage in behaviours that offer some kind of benefit or pleasure, and both are susceptible to operant and classical conditioning.

12.2 The Humane Hierarchy Model of Training & Learning



The Humane Hierarchy is a useful tool that highlights both how dogs learn and how they should be trained.

Outlined by behaviour analyst Susan Friedman, the model describes six levels of behavioural interventions, ranked from least to most invasive. Let's look at each level:

Level 1: Health, Nutrition and Physical Setting

Some undesirable behaviour is caused by injury or illness, so it is sensible to take a dog for a check-up if it is exhibiting unusual behaviour. For instance, a dog may be unwilling to get in the car because it has developed a hip injury, not because it is stubborn. At this level, a trainer will not use any form of conditioning.

Level 2: Antecedent Arrangements

Assuming the dog is in good health the next step is to evaluate the dog's environment. A dog's behaviour is enforced and triggered by its surroundings. Sometimes simple adjustments may solve the problem entirely. For instance, if the dog barks incessantly when letters drop onto the doormat then the owner could perhaps install an external letterbox instead. Again, at this stage in the hierarchy, the dog is not subjected to conditioning.

Level 3: Positive Reinforcement

If it is not possible to make adjustments to the dog's surroundings then increasing the frequency of a desirable behaviour by giving the dog a reward of some kind is the next best option. In other words, the trainer will use positive reinforcement.

For example, if a dog is reluctant to come when called, making a special effort to reward the desired behaviour if and when it does occur will increase the chance it will happen again in the future. If they rarely settle down quietly on their bed, giving a treat when they are resting peacefully teaches them that their behaviour will yield positive consequences.

Level 4: Differential Reinforcement of Alternative Behaviours

At this level, a trainer will reward desired alternative behaviours and remove any existing reinforcers that maintain the problem behaviour. For example, suppose a dog has developed the bad habit of jumping on its owner when the latter is sitting on the sofa. A trainer using this approach would advise the owner to reward behaviour that is incompatible with jumping up, such as sitting and standing quietly near the sofa. This is an example of positive reinforcement.

This differs from the positive reinforcement used at Level 3 because it focuses not on simply endorsing a good behaviour but endorsing behaviour that is completely incompatible with unwanted habits.

Level 5: Extinction, Negative Reinforcement and Negative Punishment

These strategies should only be used sparingly because there is a risk of distress to the dog, who may become confused about what they should be doing. Extinguishing a behaviour entails the complete removal of all reinforcement. For instance, if you leave a puppy to whine in a crate through the night, they may eventually learn to remain quiet, but this might cause them a lot of distress.

Negative punishment works by removing something the animal wants. For instance, if a dog jumps up at its owner because it wants to play then the owner might leave the room for a few minutes. In removing the possibility for attention or affection they are administering a negative punishment. Note that a trainer would also draw on Level 4 techniques to encourage alternative behaviours.

During negative reinforcement, a trainer removes something from the situation – or from the dog in a manner that encourages the dog to repeat a behaviour in the future.

Level 6: Positive Punishment

Positive punishment entails the addition of an aversive stimulus to a situation. For instance, shouting, hitting or administering an electric shock via a shock collar are all examples of positive punishment.

Although interventions at all levels within the hierarchy will work at least some of the time, **the fifth and sixth levels are generally considered undesirable and unethical**.

Punishment may be necessary from time to time; for example, if a dog is about to cause itself or others serious harm or has not responded to any other training method – but less invasive tactics are best.

Punishing a dog can undermine the trust between the dog and its owner. Research has also shown that physical punishment prompted an aggressive response at least 25% of the time. Therefore, the methods outlined at the top of the Humane Hierarchy may not even be effective in many cases.

When applying training methods remember that a dog has a short attention span and memory. You must administer consequences, whether positive or negative, as quickly as possible. Otherwise, the dog will become confused. In the worst-case scenario, you might inadvertently reward or punish the wrong behaviour.

For example, suppose you come home from work and discover that your dog, who is waiting for you by the door, has been chewing a cushion. Clearly, this is an undesirable behaviour. You may be tempted to administer positive punishment in an attempt to correct the dog. However, unless you know for a fact that the dog was chewing the cushion immediately before walking into the house, the dog will not know why it is being punished. In fact, your dog may assume that it is being penalised for waiting by the door.

12.3 Natural Reinforcement

Dogs can also reinforce their own behaviour in a way that makes them more likely to repeat it in the future.

For instance, suppose a dog chooses to lie beside a fireplace on a cold winter's day. However, after a while, they may start to feel hot, which causes a sense of discomfort. In response, the dog might choose to move away from the fire. There is no human involvement or conditioning involved; this kind of natural reinforcement is spontaneous and based on instinct. Because the dog removes a negative stimulus from the environment this behaviour is properly termed natural negative reinforcement.

Administering negative reinforcement – for instance, by pinching a dog's ear until it obeys a command – should not be conflated with natural negative reinforcement. In the former, the trainer controls access to a reinforcer and does not usually allow the dog to escape it; often they expose the dog to the reinforcer many times in an attempt to make sure the new behaviour is entrenched.

Another example of natural reinforcement is that of a dog learning to steal food from a table. A dog that realises the dining table 'offers' delicious food will try to jump up at future mealtimes to seize food unless it is taught otherwise. This is an instance of positive natural reinforcement because the dog has introduced something new (the food) to the scenario.

Understanding natural reinforcement is an important piece of the puzzle when trying to understand why dogs develop problem behaviours. It makes little sense to say that dogs are intrinsically “bad”. Often their behaviour results from a desire to fulfil their basic needs, such as a need for food or a need for physical stimulation.

12.4 How Dogs Learn from Other Dogs

According to psychologist Stanley Coren, dogs can learn new behaviours by watching other dogs.

As a general rule, dogs like the company of other dogs. On an anecdotal level, those who work with dogs report that it is easier to train a puppy if it is introduced to a household with a mature dog.

For example, a puppy will learn from a mature dog that it is normal to urinate in the garden, rather than in the house. An owner will certainly have to take a proactive approach to house-training – they cannot assume that a puppy will always follow the adult dog's lead – but it is likely that the former will tag along with the latter outside and start to urinate in the same area.

Another example is teaching nervous puppies to descend staircases. Most young dogs are uncertain how to handle steps. However, if they watch an older dog move confidently up and down a staircase then they are likely to follow suit. Coren advises that the older dog serves as a model thus triggering the puppy's innate desire to do what those around them are doing.

Of course, this natural tendency may come with a downside; a dog can also serve to model undesirable behaviour, such as jumping up on furniture. If you are addressing problematic behaviour in a dog that lives with other dogs it is prudent to make sure you train both animals.

12.5 Personality Differences and Dominance in Dogs

Just like humans, each dog has its own personality and set of capabilities.

Some are relatively outgoing, whereas others prefer a quiet and sedate life. Different breeds exhibit specific characteristics which become apparent during the training process. For example, English Setters are working dogs known for their affectionate temperaments and intelligence. They are generally eager to please their owners and are relatively easy to train. On the other hand, Afghan Hounds tend to be more stubborn and independent.

There are mainly five different types of dog personalities.

- **Confident dogs**: They know how to behave as a team player as well as lead the action where they need to.
- **Shy or timid dogs**: They dislike chaotic, loud and brash environments and may develop fear or aggression if you force them to acclimatize in strange places. Calm praise, reward and praise are effective techniques to use with shy dogs.
- **Independent Dogs**: They usually bond very well with only one person and may require specialized training to get them to obey commands. They may not socialize with other dogs much and may be happy on their own.
- **Laidback, happy dogs**: These dogs are enthusiastic, excited and happy most of the time. You can need training in order to calm them down as they may like jumping on people. Typical examples include Labrador and Golden retrievers.
- **Adaptable dogs**: These are slightly different from happy dogs. They are eager to please and much easier to train. They know how to be friendly without being exuberant.

What about dominance?

Contrary to popular belief, dogs as a species are not usually motivated by a desire to establish dominance over their owners, trainers or other animals. Classic dominance theory states that every dog wants to improve their social rank and they will resort to aggression if it helps them realise their goal.

This view of dominance stems from old research into the behaviour of captive wolves. Researchers noticed that wolves that lived in artificial packs – i.e. unrelated wolves that had to live together – did sometimes fight to establish a dominance hierarchy. The most powerful wolves would ensure they had the best access to food and the best mates.

Those interested in dog behaviour reasoned that because dogs are descended from wolves, they must have similar tendencies. However, more modern research has thoroughly debunked this theory. The captive wolves used in the study were not a natural family pack - they were a randomly assembled group - and their behaviour was affected by their unnatural situation.

In addition, dogs have been domesticated for 1,000s of years. During this time their behaviours have become removed from those of wolves. When allowed to live freely their behaviour depends on numerous factors, such as prior relationships and experiences. Their social structures are flexible and fluid.

What does this mean for trainers? In brief, research suggests that although some dogs may have more assertive or even aggressive personalities we should not assume that they are driven to compete with others for the status of “top dog.” You do not need to use harsh “dominant” training methods to encourage desirable behaviour.

Module Summary

- There are many differences between humans and dogs when it comes to learning, but a few similarities.
- The Humane Hierarchy model informs us how to train dogs, and also provides valuable insights into how they learn.
- The principles of operant conditioning underpin many popular methods used in dog training methods.
- Dog behaviour can be entrenched by natural reinforcement.

- Dogs can learn behaviours from other dogs.
- A dog's personality and aptitude for learning varies as a function of their breed and history.
- The concept of dominance is misunderstood by many dog owners; modern dogs are not driven by a desire to dominate others.

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