Training - What is it?

Training is the process of teaching skills or behaviours. It applies to dogs, cats, and people.

In dog training this can include teaching a dog

i) to respond to certain verbal or visual cues (‘commands’ in the old terminology), or
ii) helping the dog learn coping skills for living in stressful environments.

Why do we want to do it?

There are many reasons for training, especially dogs. These include teaching basic “obedience commands” to pet dog owners to specialized areas including law enforcement, military, search and rescue, hunting, working with livestock, assistance to people with disabilities, entertainment, dog sports, detection dogs and protecting people or property, like guard dogs.

How do we do it?

There are many methods of dog training but they all include operant conditioning and classical conditioning.

So what is obedience training?

The word obedience means something different to each person and it also varies with each context.

One dictionary defines “obedience”:

- as the state or quality of being obedient
- the act or practice of obeying; dutiful or submissive compliance
- a sphere of authority or jurisdiction, especially ecclesiastical.

The word “obedient” is defined as obeying or willing to obey; complying with or
submissive to authority.

“Obedience training” usually refers to the training of a dog and ranges from very basic training, such as teaching the dog to reliably respond to basic “commands” or verbal and visual cues such as “sit”, “down”, “come”, and “stay”, to high level competition within clubs where additional commands, accuracy and performance are scored and judged.

In this context obedience implies compliance with the “command” given by the dog’s owner. For a dog to be considered obedient rather than simply trained in obedience, it must respond reliably each time the command is given by its handler. If a dog is referred to as being “Obedience Trained” it should comply immediately with every command its handler gives.

Already this can be seen as leading to potential problems as the expectation is that the dog will comply every time to every command. Not even computers or machines do this so it is unrealistic to expect this from another living, sentient being with feelings and emotions like a dog. Additionally all dogs learn at different rates and not all dogs are able to comply at all times. This can lead to frustration on the part of the owner and can damage the relationship between the owner and the dog.

A dog can go through obedience training and still not be obedient, and a dog can also be obedient but still have a behaviour problem. This is why it is important that veterinarians and veterinary nurses are able help owners have realistic expectations of their dog.

**Review of Basic Learning Principles:**

**How Does Learning Occur?**

Knowing the basic principles of learning theory is important when you train an animal or modify its behaviour. The principles of learning theory have been derived from the experimental study of behaviour. Learning, or conditioning as it is also known, can be defined as “any relatively permanent change in response that occurs as a result of experience” (McGreevy, 2001). However, not all changes in behaviour are due to learning. Some changes in behaviour, for instance drinking water when thirsty, are due to a change in motivation.

It is important to recognise that for a behaviour to change there has to be something in it for the animal. In other words no-one “does something for nothing”. Behaviour is controlled by its consequences. If the consequence is “good” then the behaviour is more likely to be repeated, and conversely, if the consequence is “bad” the behaviour is less likely to be repeated. This is also referred to as the “law of effect” – that is behaviour is modified by its consequences. When animals are trained, we are really manipulating their experiences.

**Learning Theory**

There are many types of learning that have been recognised and studied. However, the two principles of learning that are commonly used in modifying the behaviour of dogs and cats are classical and operant conditioning. Classical conditioning, also known as Pavlovian conditioning, was first studied by Pavlov in the early part of last century.
Conditioning is said to have occurred when the repeated pairing of a neutral stimulus (Conditioned Stimulus, CS) with a biologically significant event (an unconditioned stimulus, UCS), results in the production of a response (Conditioned response, CR) when the CS is presented alone. For example, the words “good dog” are initially neutral – that is these words mean nothing to the dog. However, they may become a CS via Pavlovian conditioning by being paired with biologically significant events such as presentation of a food treat or a pat on the head. The conditioned response in this example is likely to be tail wagging.

Operant conditioning, or instrumental learning, is the primary method in which dog training is achieved. Operant conditioning teaches the animal to perform a voluntary response in order to obtain reinforcement or a reward. Presentation of a positive reinforcement or reward, such as food, increases the chances of a particular response being repeated. Hence the dog learns that behaviour is controlled by its consequences. Similarly, an animal will perform a behaviour to obtain secondary rewards, or stimuli, consistently presented with the primary reinforcer (for example, for the words “good dog” which were paired with food presentation).

The likelihood of a particular behaviour being repeated depends on the nature of the consequences. Thus, if the consequence is pleasurable, such as a piece of food, then the behaviour is more likely to be repeated. Using this methodology new behaviours can be shaped in the animals, such as to “sit” or “stay” upon a verbal and/or visual cue.

Various parameters have been examined as to their effect on the ability to acquire and maintain a response through operant conditioning. For example, the reward must immediately follow the response to be effective. Behaviour can be maintained under a partial reinforcement schedule, wherein the particular response is rewarded intermittently.

Thus, to teach a new behaviour, such as “sit”, a puppy is trained through the process of shaping. Initially the puppy is rewarded for any behaviour which approximates sitting and gradually only behavioural responses which become closer to the desired response are reinforced. Once the puppy is reliably responding for food, the cue is then paired with the required response. When the behaviour is learnt, a variable reinforcement schedule is introduced and the puppy is only rewarded every third or fourth time, but praise is always given. This way the learnt behaviour is more likely to persist. A reward, or positive reinforcement, can be anything that the animal finds desirable, for example food, a walk, a game, interaction with the owner.

There are two types of reinforcer, primary and secondary. Animals have evolved to instinctively recognise that primary reinforcers are either “good” or “bad”, this is they do not have to learn that primary reinforcers such as food and sex are “good”, that is, essential for survival or that lack of water is “bad”. The value of secondary reinforcers, such as a pat on the head, words like at “good boy”, have to be learnt by the animal.

Learning occurs faster with primary reinforcers. However, training is strengthened with secondary reinforcement. Thus, in many cases food is used as the reward because most dogs find this very desirable, but its effectiveness is increased when it is paired with a pat, or verbal reward such as “good dog” as it strengthens the response.

In summary, learning can be classified into two main types:
Operant Conditioning

When used in training it involves teaching an animal to perform a response in order to obtain a reward. For example, a voluntary response such as sitting is more likely to be repeated if the end result is pleasurable - thus the outcome determines the response.

Classical Conditioning

This involves an involuntary response, such as salivation, that becomes paired with a neutral stimulus and is not associated with a reward.

Definitions:

Positive Reinforcement.

This is a reward (something pleasurable) that, when given immediately after a response, increases the probability of that same behavioural response occurring again. For example if a dog is rewarded for sitting by being given a tasty piece of food after being given the cue “sit”, then the dog is more likely to sit again next time that same cue is given.

To be most effective the reward has to be
1. Immediate
2. Consistent
3. Desirable

Negative Reinforcement.

This is often confused with punishment. It is something unpleasant or aversive that, when it is removed immediately after a response, increases the probability of that response recurring. For example, loosening the choke chain after a dog stops pulling on it teaches the dog that it is less painful to walk to heel than to pull on the lead.

Primary Reinforcement

These are any reinforcers (rewards) that the animal has evolved to seek, that is knows intrinsically that are “good”, or lack thereof may be “bad”. Examples may be food, water and sex.

Secondary Reinforcement

These are reinforcers that the animal must learn to associate with primary reinforcers. Thus, verbalisations such as “good dog”, or a pat on the head become positive reinforcers.

Positive Punishment.

Where reinforcement, either positive or negative, increases the probability of the preceding response occurring again, punishment is intended to have the opposite effect. It decreases the probability of the preceding response occurring again. Positive punishment is the addition of an aversive stimulus or event. For example, yelling at the dog or smacking would be considered a punishment if it lead to a decrease in the
To be most effective the punishment needs to be

1. Immediate
2. Consistent
3. Sufficiently aversive

**Negative Punishment.**

The withdrawal of a pleasant stimulus or event that leads to a decrease in a behaviour is considered a negative punishment. For example, placing a dog into a sin bin, immediately after performing an unacceptable behaviour would be considered a negative punishment if it lead to a decrease in that behaviour.

With both reinforcement and punishment, the timing is crucial. The time between the response and the punishment or reinforcement must be immediate, less than 1/2 second for the animal to make an association. By reinforcing 5 seconds after the response we may actually double the learning time.

In summary:

Reinforcement (+ve and –ve) **increases** the probability of a response recurring;

Punishment (+ve and –ve) **decreases** the probability of response recurring.

Both can be either positive or negative and need to be applied in close proximity to the response for the animal to make an association.

**Training Method is important**

Results from one study indicated that dogs that were in an obedience training group showed the most improved obedience behaviour and the highest improvement in the human-canine relationship. This group also showed lower separation anxiety than dogs that were in the No Instruction group. The No Instruction group revealed higher separation anxiety, no improvement in obedience and no change in the relationship. Thus the use of positive interaction and quality time spent with the dogs is beneficial.

A recent study showed that owners that used confrontational methods before seeking help were associated with aggressive responses in many cases. Confrontational methods elicited an aggressive response from at least a quarter of the dogs on which they were attempted. These included methods such as hitting or kicking the dog for undesirable behaviour’ (43%), ‘growling at the dog (41%), physically forcing the release of an item from a dog’s mouth (39%), alpha rolling the dog (31%), staring at or staring the dog down’ (30%), forcing the dog into a dominance down (29%), and grabbing the dog by jowls and shaking (26%).

**Ten Top Tips for Training**
Training should focus on teaching good manners to live in today’s society.

1. Start early - a well run Puppy Preschools® are helpful while ones that are not lead to behaviour problems.
2. Animals learn fastest when:
   a. they are rewarded every time
   b. the reward is very desirable
   c. the reward is given immediately (within ½ second)
3. Information is retained longer when the reward is given intermittently
4. Puppies and kittens have very short attention spans. Training sessions should be short, 2-3 minutes at any one time is more than enough.
5. Always reward the behaviour you want and ignore the behaviour you do not want.
6. Punishment should not be a part of training as it is not a good way of modifying behaviour and does not teach the pet which behaviour is desired.
7. Keep the rewards small and tasty - no larger than ¼ the size of your small fingernail
8. teach pets to “calm” or “settle” on cue is essential for good manners
9. Be patient: learning takes time
10. Training should be fun – for people and pets!

**Conclusion**

It is clear that some training of dogs and their owners is beneficial but the methods used are very important in determining future behaviour problems. And as with any types of training, the relationship and trust between the dog and its owner are important for success. The use of rewards rather than punishment has been shown to be the most successful way to create a strong bond between owner and pup as well as decrease the chances of an aggressive response in dogs.

**References and Further Reading:**


Puppy Preschool® trademark of Dr Kersti Seksel