



SCENT TRAINING USING SIGMA PSEUDO™ PRODUCTS

Introduction

The following information is compiled from the experiences of William (Bill) Grimmer, Scoudouc, New Brunswick, Canada.

Sigma Pseudo Products Simplify Detector Dog Training

Simple behavior modification techniques, combined with the use of Sigma Pseudo products, have proven to be a reliable and convenient means of training detector dogs. Moreover, Sigma Pseudo products provide a measure of safety unattainable when real substances—such as narcotics, explosives, and body parts—are used. As a result, training can be performed with much less danger and stress.

It's important to note that this type of training is not for the novice dog handler. A well rounded knowledge of dog training and animal behavior is essential. Before implementing the training techniques outlined here, trainers must learn and fully understand basic behavior definitions. Creativity and innovation, plus a talent in timing techniques, are also extremely important.

It is also important to understand that all animals, like humans, have different attention spans. Trainers must not work beyond the attention span of the animal and must carefully watch for signs of boredom and disinterest.

Inductive Behavior Modification

This is the most widely accepted method of behavior modification and has long been used to develop reliable, good working dogs. As the name suggests, the trainer "induces" the dog to elicit a desired response by using pleasurable experiences as both bait and rewards. Young dogs should always be trained with inductive behavior modification, and older dogs should receive inductive training in the initial stages of modification.

A simple example of inductive behavior modification is to coax a dog toward the trainer with a verbal command and then to reward with a food treat for obeying. The trainer stands with his back to the dog, looks over a shoulder, and slowly moves away. This invokes the puppy's "prey drive" and "play drive" and encourages the dog to go to the handler. A food treat and praise is used to reward the dog for the response. The dog soon begins to associate the word "come" with a pleasurable reward and will do so if not distracted.

All initial training should be performed in this manner; however the reward may take different forms. If a dog has a naturally high prey drive, a ball might be the desired reward. If a dog has a naturally high pack drive, praise might be the desired reward. Of course, if the dog is hungry, food might be the most appropriate reward. The trainer should use a combination of rewards, selecting one or more based on the attitude of the dog at the time.

Reinforcing behavior so that it occurs more often only works when the behavior is already occurring. But behavior modification alone is not sufficient to train a dog to do things that would probably never occur by chance. Dogs trained to find drugs, lost persons, dead bodies, or explosives must also be trained using shaping techniques.

Shaping

Shaping consists of taking a very small tendency in the right direction and shifting it, one small step at a time, toward an ultimate goal. The terminology used by behavioral scientists for this process is *successive approximation*.

Success or failure in shaping a behavior ultimately depends not upon the trainer's shaping expertise but upon persistence. A well planned shaping program minimizes drilling, thus making practice more productive and speeding up the learning process.

Ten Laws of Shaping

There are ten rules that govern the shaping process. Some come straight from psychology labs and have been demonstrated experimentally; others are recognized as inherently valid by people who have used shaping procedures.

1. Raise the criterion for earning a reward in increments small enough so that the dog always has a realistic chance for reinforcement.
2. Train one thing at a time; don't try to simultaneously shape multiple criteria.
3. Always implement a variable schedule of reinforcement for the current response before adding or raising criteria.
4. When introducing a new criterion, temporarily relax the old ones.
5. Plan your shaping program completely. That way if the dog makes sudden progress, you'll know exactly what to reinforce next.
6. Don't change trainers. While you can have several trainers per dog, a single trainer should be responsible for shaping a specific behavior.
7. If a shaping procedure is not eliciting progress, try another. There are as many ways to shape a behavior as there are trainers to create them.
8. Don't interrupt a training session; it's equivalent to punishing the dog and can have a negative impact.
9. If behavior deteriorates, go back to basics. Quickly review the shaping process with a series of easy reinforcements.
10. End each training session on a high note if possible, but always quit while you're ahead. Remember, you must work within the dog's attention span.

Shaping Shortcuts: Targeting, Mimicry, and Modeling

Trainers use a number of techniques to make shaping progress faster. Three techniques that are commonly used in detection training are targeting, mimicry, and modeling.

Targeting: Targeting is widely used in the training of sea lions and other performing animals. Trainers first shape the animal to touch its nose to a target, such as a knob on the end of a pole or the

trainer's closed fist. By moving the target around and getting the animal to go and touch it, the trainer can then elicit other kinds of behavior, such as climbing stairs, jumping or rearing up, following the trainer, getting into and out of a shipping crate, etc. Tapping the thighs to coax a dog to us is essentially a targeting technique. The movement is attractive to dogs, causing them to approach; the behavior is reinforced when we pet them or present a treat.

Mimicry: Young creatures of all kinds learn much of what they need to know by watching and then copying the behavior of their elders. Mimicry comes naturally in dogs, although dogs are not outstanding at learning by observation. Mimicry can and should be used wherever possible, particularly if you are fortunate enough to have a trained dog that can be mimicked.

Modeling: The third shaping shortcut, modeling, consists of pushing the dog manually through the desired action, similar to the way a golf pro puts his arms around a novice from behind, holds the club, and leads the subject in the desired swing.

Like mimicry, modeling is not the most efficient training technique. It works best when the dog is already performing the behavior or at least trying to do it without being held or pushed. The weakness in modeling is that often all the dog learns is to let you put it through the motions.

The way to make modeling work is to combine it with shaping. While you are putting the dog in position, or through the motions, stay sensitive to the smallest effort on the dog's part to initiate the proper motion, then reinforce that effort.

Reinforcement Anticipation

Anticipating reinforcement is what locks in detection ability. Wrongly, some trainers contend that once you start with positive reinforcement, you will have to continue it forever. Actually, dogs need constant reinforcement only when they are learning new behaviors. To maintain a learned behavior, it is important *not* to reinforce every time. Instead, a schedule for removing reinforcement should be developed.

Tug Toys

The use of tug toys has proven to be effective in dog training. It does have some drawbacks, however, in scent training. In such training, the search itself should be the reward. If the tug toy is the reward, the dog's mind is on the toy rather than

the search; it may stop searching and badger the handler for the tug toy. The handler must then keep the toy out of sight until the dog completes the search.

Because dogs live in a world of scent, as opposed to our world of sight, using their nose is very enjoyable for them. The enjoyment a dog gets from using its sense of smell should be a sufficient reward for conducting a search.

Too Young To Train?

Dogs are creatures of habit—and habits are formed best at young ages. Young animals are the best to work with because they have developed no bad habits that have to be modified and they can be quickly molded in the desired direction. Dogs properly selected and trained young often outperform by two to one dogs that were trained later in life. Puppies as young as 10 weeks can be taught to indicate marijuana.

80 Reinforcements Per Day

As a rule of thumb, try to limit reinforcements (actions that produce praise or reward) to 80 per day. This includes all forms of training, including scent work and obedience.

TRAINING WITH SIGMA PSEUDO—7 STEPS

Step 1—Targeting

Begin targeting the dog to the Sigma Pseudo product by holding the scent container in a fist near the nose of the dog. Give the chosen command (which should never vary) and touch the container to the dog's nose. Immediately take the container away and lavish praise along with petting and hugging. It may also be helpful to give the dog a very small amount of a favorite food, particularly when working with young puppies.

Working for this reward (praise and/or food) is the basis of the habit-building process; progress should be very quick. Targeting should be repeated a dozen or more times in succession per session. Sessions can be repeated in as little a time as 30 minutes.

Step 2—Targeting With A “Jackpot”

A jackpot reward is a higher level of reward—more excitement, louder praise, a greater quantity of food.

Take the dog out of the training area and place the container in an open area on the floor. Bring the dog back to the training area within sight (5 to 10 feet) of the container. Give the command and guide the dog to the container. When the dog reaches and touches its nose to the container, give an immediate “jackpot” reward.

Repeat this technique for about 10 sessions, always in the same location. Take the dog out of the area, bring it back in, 5 or 10 feet from the training material, repeat the command and reward it upon contact. It is important that the rewards be

timed to coincide precisely with the desired behavior—the dog touching or mouthing the target.

Step 3—Getting The Dog To Use Its Nose

Step 3 is very similar to Step 2, except that the training canister is moved to a new location (still in close proximity to the previous one) each time the dog is removed from the training area. Upon its return, the dog is directed

to the general area and, by targeting and modeling, urged to locate it. Withhold praise and reward until the dog's nose contacts the scent container.

Behavior indicating the location of the container can be shaped by modeling and mimicry. Digging and barking are commonly reinforced indicators for narcotics; sitting is commonly used for bomb detection or passive response narcotic detection. The response for the indication can be anything the trainer wants and the dog can perform.

Naturally, responses that are easy for the dog are the quickest to learn. Basic training of a young dog will be digging or barking on command. If the dog has been target-trained to contact the material with its nose, it will become aggressive when it cannot reach it. Placing the scent inside a cardboard box will teach the dog to dig and root it out. Encourage and help the dog at the first sign of digging or

Preparation of a Scent Container

Saturate two or three cotton balls with the Sigma Pseudo product and place them in a scent container, such as a plastic 35mm film canister that has been drilled full of holes. If you use the liquid form, place the cotton balls directly in the scent container and pour in about one half of a 1 ml vial. If the powder form is used, place about two tablespoons in a small plastic bag with the cotton balls and shake vigorously; the powder will readily adhere to the cotton. Then transfer the cotton to the scent container.

barking. The desired response should be elicited a dozen times per session in multiple sessions.

Step 4—Increase the Level of Difficulty

Make the container increasingly difficult and time-consuming to locate. Let the dog work and don't badger it if it is actively sniffing. Equally important, don't distract the animal with constant commands to "find." Trainers ideally teach a dog to respond to one command.

Time: The length of time searched before a find should continue to increase. But don't force the dog beyond its own interest level. A young dog may be worked for 1 to 5 minutes before losing interest; a good dog will ultimately sniff and search for 15 minutes. Intervals of searching should be followed by equal intervals of "quiet time." You should also keep track of the dog's progress on a chart, so you can quickly determine how well it is developing.

Location: Increase the search difficulty by placing the target scent in areas that are progressively harder to reach...and don't be afraid to be creative. If the scent container is placed under leaves or scraps of paper the dog will usually begin to dig. Reward this behavior and increase the difficulty again. Dogs can develop to the point where they will indicate scent material from beneath the ground or even from under water.

Step 5—Introduce Distractions

Begin to add distractions. Typical distractions include other dogs in the training area, loud noises, and distracting smells. At this level, it will take all of the trainer's creativity to come up with new and different distractions. List and document all search levels and results and work the dog up to the difficulty level in which it will be expected to work in real-world situations before proceeding to Step 6.

Step 6—Scent-Proofing

Scent-proofing is the final step and requires the use of the actual material (narcotics, explosives, etc.). Place a familiar-looking container with the actual scent material in it on the floor (as in Step 2). Place three or four empty containers close to the target container. Give the dog its command and watch closely. Upon indication of the actual material, give immediate praise and reward.

If the dog indicates an empty container, say nothing. Take it from the dog, offering no reaction

and urge it to continue. Do this until the dog selects the right container and then praise and reward it lavishly. Absence of praise and reward is a powerful training tool and is the key to scent discrimination; you do not get a second chance at this so always be ready to reward the dog the moment it touches its nose to the right item.

Step 7—Scheduling the Reinforcement

When the dog is indicating accurately with the desired behavior (mouthing, digging, barking, etc.), start to remove the reward on a planned schedule. Begin randomizing the rewards, both in type and intensity. Try rewarding every 2nd indication, then every 3rd, then return to rewarding every indication for a few exercises. Eventually the dog will make finds and return to the search in the absence of an immediate reward.

Once the dog has demonstrated that it will indicate real target material you can continue training in this manner with Sigma Pseudo Products throughout the animal's service life. As stated previously, Pseudo products are much safer and less stressful to use and don't pose security concerns.

In summary, using the above techniques will help you develop an excellent working dog—one which will indicate a target material to its master without command. Selection of a good candidate further simplifies the training process. There are detailed testing procedures available that one can use to easily detect suitable training candidates regardless of age. In general, animals which are eager, happy, healthy, and friendly make the best detector dogs.

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