

Clicker Training Introduction



We help build canine relationships that will live forever in our hearts

Presented by
Dogs Gone Wild, LLC
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Introduction

About Dogs Gone Wild, LLC

Dogs Gone Wild, LLC is a newly formed business (January of 2008) dedicated to helping dog owners connect with their dogs on a whole new level. Dogs Gone Wild specializes in dog and handler training in a large variety of activities including Agility, Obedience, Rally, and Dock Diving. Training methodologies used in Dogs Gone Wild are positive based. More information about Dogs Gone Wild may be found at www.dogsgonewildllc.com.

The owner of Dogs Gone Wild, Sue Thompson, has been working with animals all her life and particularly enjoys helping other dog owners get the most out of their relationship with their dogs. Sue's husband Rob also enjoys working with dogs and dog lovers. Prior to moving to the Endless Mountains Region and forming Dogs Gone Wild, Sue and Rob were actively involved with Kruisin' Kanines which is based out of Doylestown, PA. They were involved in many facets of the Kruisin' Kanines organization including training, and executive board positions. More information about Kruisin' Kanines may be found at www.kruisinkanines.com.

Purpose

The purpose of this clicker training seminar is to introduce participants to the concept of clicker training and provide the tools necessary to begin applying clicker training concept immediately. By the time this seminar is over, attendees will understand the basics of learning theory, behavioral shaping and rules for applying the clicker concept.

Thanks to BCHS

Dogs Gone Wild would like to thank the Carmen and the Bradford County Humane Society for giving us the opportunity to present this material. Dogs Gone Wild appreciates all the wonderful things that the Bradford County Humane Society does for our community and we are very happy to work with them in promotion of responsible dog ownership.

Clicker Training History

The concept of clicker training is not as new as many folks might think; there is significant history behind this training technique. First of all, many people have been working on the science of learning since the late 19th century. The two key contributors at that time were Ivan Petrovich Pavlov and his drooling dog, which became known as classical conditioning. Other significant contributions, like operant conditioning, were made since by folks like Burrhus Frederic Skinner and thus the science of learning had begun to take shape. Many folks, including Marian and Bob Bailey, began applying the science in animal training. Clicker training applications became very popular in the training of marine mammals by mid 20th century. Towards the latter part of the 20th century, folks started using the clicker concept with their dogs. Karen Pryor does a great summary of history of clicker training in her book titled "Getting Started: Clicker Training for Dogs", see reference [PRYOR2] for details.

References

There are many great references out there for interested readers, but the following list comprises some of the key references used for delivery of this seminar. A large percentage of the material from [BARNEY] will be quoted in this article and seminar participants are encouraged to have this book as one of their clicker training resources.

[PRYOR1] “Don’t Shoot the Dog; The New Art of Teaching and Training”, Revised Edition, 1999, Karen Pryor, ISBN 978-0-553380-39-2, www.randomhouse.com/bantamdell/

[BARNEY] “Clicker Basics for Dogs and Puppies”, 2007, Carolyn Barney, ISBN 978-1-892694-16-4, www.cleanrun.com

[PRYOR2] “Getting Started: Clicker Training for Dogs”, 2005, Karen Pryor, ISBN 1-890948-21-7, www.clickertraining.com

Terminology

Classical Conditioning	Generally referred to when describing dogs reacting to their environment, example Pavlov’s dog drooled when he heard a bell
Operant Conditioning	Generally referred to when describing dogs acting in their environment, example, dogs offer behaviors to get a click and reward
Reinforcement	Anything that encourages a dog to perform a behavior, example dog gets reinforcement of marinating steak on counter when he counter surfs
Primary Reinforcement	Type of reinforcement that fulfills a dog’s basic need like food, drink, and sex
Secondary Reinforcement	Type of reinforcement that is paired with a primary reinforcement, typically to enhance or refine behavior, example the click that is accompanied with a treat for a sit behavior
Positive Reinforcement	Any reinforcement that adds something the dog likes, example a treat
Negative Reinforcement	Any reinforcement that removes something the dog dislikes, example loosening of a choker collar correction

Punishment	Anything that discourages or suppresses a dog's performance of a behavior, example dog gets a physical reprimand for counter surfing
Primary Punishment	Type of punishment that causes physical discomfort to a dog like hitting
Secondary Punishment	Type of punishment that is paired with primary punishment typically to enhance or refine behavior, example saying "NO!" while physically reprimanding a dog for counter surfing
Positive Punishment	Any punishment that adds something the dog dislikes, example a physical reprimand
Negative Punishment	Any punishment that removes something the dog likes, example time-out for a dog that is misbehaving
Behavior	Anything done by a dog, examples sit, down, and come when called
Training	Feedback of information to a dog performing behavior, example dog eats delicious marinating steak for counter surfing (Note dogs are always training)
Cue	Any signal that can be received by a dog via sight, sound, touch, taste, and smell that initiates the start of a behavior
Consequence	The result of a dog performing a behavior, example eating a delicious marinating steak
Stimulus Control	Used to describe when a cue reliably causes a dog to initiate a behavior, example a dog's sit behavior is said to be under stimulus control once the dog sits every time she is asked to
Clicker	A tool that makes a unique repeatable clicking sound and is used as secondary reinforcement in the clicker training paradigm
Charging	Used to describe the act of pairing the clicking sound of a clicker with primary reinforcement, also called loading the clicker
Shaping	Used to describe the act of a trainer reinforcing steps within a shaping plan

Shaping Plan	An organized step-wise progression of behaviors that bridge current behavior with a more complex behavior
Variable Reinforcement	Describes the use of diverse value reinforcement, example a cheerio is used to reinforce sloppy sit behavior where a piece of steak may be used to reinforce text book sit behavior
Variable Schedule of Reinforcement	Describes the use of randomizing reinforcement delivery such that the dog never knows which reliable behavior performance could yield the reinforcement
Marker	Any signal that can be received by a dog via sight, sound, touch, taste, and smell that gives the dog information about how he's performing a behavior, example a click to mark that a dog is on the right track

Learning Theory

Introduction

Learning theory is an organized, scientific-based, description of how animals learn, including humans and dogs. I find that one of the most difficult parts of learning theory is applying the terminology correctly. The following sections will introduce introductory learning theory terms and provide examples of how they apply to training dogs.

Reinforcement vs. Punishment

In a general sense, learning theory is a set of rules used to describe how animals learn. We perceive the world through our five senses, sight, smell, taste, touch, and sound. We quickly learn from a very early age which behaviors get us what we need and which behaviors result in things we do not need, nor enjoy for that matter. What I'm talking about is reinforcement versus punishment. When we cry as infants, we get the attention we desire. When we misbehave as teens we still get attention, it's just not the attention we were wanting.

A dog's understanding of reinforcement versus punishment is surprisingly similar to ours and believe it or not, many other animals too. Reinforcement is a term typically used to describe something that encourages a behavior to happen repeatedly, whereas punishment discourages or suppresses behavior. In a dog's world, reinforcement could come in the form of a delicious marinating steak sitting on the kitchen counter. The behavior that is required to get such a reward may be for the dog to counter surf in order to get that delicious marinating steak.

Punishment in the form of a verbal or physical reprimand, or fear thereof may be the only deterrent from the dog's perspective that may prevent him from performing this counter surfing behavior. The stakes are certainly very high, no pun intended.

Primary vs. Secondary

The marinating steak fulfills the dog's basic need of hunger. Therefore, learning theorists might refer to the steak as primary reinforcement. Primary reinforcement is a term used to describe a reinforcement that addresses a dog's primary needs, which could be food, drink, or sex.

Finding a dog eating a marinating steak that was actually intended for human consumption may lead to his owner punishing the dog, maybe in the form of a physical reprimand. This type of punishment is called primary punishment, because it causes the dog physical discomfort, unappealing to the dog's sense of touch.

Perhaps, when finding the dog eating the marinating steak, the owner yelled "NO!" while physically reprimanding his dog. This verbal reprimand is what is called secondary punishment. The word itself is not causing the dog any physical discomfort. However, since it is being paired with the physical reprimand, future use of the word may conjure up unpleasant memories for the dog.

An example of a secondary reinforcement in this case would have been the owner saying "Good Boy!" if the dog had thought about it, but decided not to counter surf and eat the marinating steak on the kitchen counter.

The key to understanding secondary reinforcement or secondary punishment is in understanding that the words themselves had no meaning to the dog until they had been paired with the primary reinforcement or punishment.

Positive vs. Negative

To make matters even more confusing, learning theorists have two additional terms, positive and negative. Positive is generally used to describe when something is added, like positive secondary reinforcement when the owner said "Good Boy!" for no counter surfing.

Negative is generally used to describe taking something away. As in the case of our counter surfing canine, let's say the owner took away the dog's freedom by crating him or using baby gates to block his kitchen access, in order to keep him from counter surfing. This would be called negative punishment because it takes away something the dog enjoys, like his freedom or kitchen access, in order to suppress the counter surfing behavior.

Behavior vs. Training

The last two terms I'm going to introduce here are behavior and training. I've used the term behavior several times already to describe something the dog does. However, it's particularly relevant now because I'd like to contrast this term with training. Training is the feedback of information to a dog performing a behavior. If our counter surfing dog gets a primary reinforcement of enjoying a delicious marinating steak, he has been trained that this is a highly rewarding behavior and will therefore be likely to perform this behavior again in the future. Notice that the owner didn't have to actually train the dog to perform the counter surfing behavior. Folks are often surprised when I tell them that their dogs are always

training, even though they may not be in a formal dog-training school when the training occurs.

There will be more discussion relating to behavior versus training in the training section of this article.

Prioritization of Consequences

Many learning theory terms have been introduced in the preceding sections. Figure 1 below organizes all of these terms together in the context of our counter surfing dog. Ideally, we really want to train our dog not to counter surf so each of the terms describe some of the different ways we could encourage our dog not to counter surf. The various combinations of these terms are consequences and have been listed in order of decreasing effectiveness. The top two terms, shaded in green, are considered to be the most effective and therefore are relevant to clicker training. The remaining terms are not part of the clicker training paradigm. Be aware that physical reprimands are not only ineffective because they produce inconsistent results, but they could damage your relationship with your dog. Consequences relating to physical reprimands have been shaded in red.

Rank	Learning Theory Term	Description – Non-Counter-Surfing Context
1	Positive Primary Reinforcement	Steak treats for not counter-surfing
2	Positive Secondary Reinforcement	Verbal praise for not counter-surfing
3	Negative Primary Punishment	Block kitchen access with baby gates or crate
4	Negative Secondary Punishment	Stop verbal praise for counter-surfing attempt
5	Negative Secondary Reinforcement	Stop verbal reprimand for not counter-surfing
6	Positive Secondary Punishment	Verbal reprimand for counter-surfing
7	Negative Primary Reinforcement	Stop physical reprimand for not counter-surfing
8	Positive Primary Punishment	Physical reprimand for counter-surfing

Figure 1 - Learning Theory Consequences in Order of Increasing Effectiveness

Summary

Basic concepts of learning theory have been introduced. Much discussion relating to relevant terms used in learning theory has been provided primarily for background. The most relevant concepts of learning theory used in clicker training are positive primary reinforcement (treats) and positive secondary reinforcement (clicks).

Shaping

Introduction

In the previous section, much discussion was provided about the nuances of learning theory. The purpose of the learning theory discussion was to explain what consequences clicker trainers must use to react to behaviors their dogs perform. This shaping discussion is intended to explain more about how clicker trainers must mark for desirable behaviors or steps within a shaping plan.

Marker Signal

There are only two allowable consequences in clicker training and they are positive primary reinforcement and positive secondary reinforcement. Positive primary reinforcement is when we treat our dogs for performing a behavior we like. Positive secondary reinforcement is when we mark behaviors we want with a marker signal.

A marker signal is any signal that can be received by a dog via sight, sound, touch, taste, and smell that gives the dog information about how he's performing a behavior. For example, when we use a click to mark that a dog is on the right track.

Positive secondary reinforcement, a click, must always be paired with positive primary reinforcement, a treat. Without this pairing, the click would be meaningless to our dogs. This is a fundamental requirement of clicker training and will be discussed in more detail in the training section of this article.

Behavior Shaping Concept

The concept of shaping is used to describe the act of reinforcing steps within a shaping plan. A shaping plan is an organized step-wise progression of behaviors that bridge current behavior with a more complex behavior.

Let's say that we require that our dog has a down behavior in its repertoire. This is where shaping comes in. Maybe the only thing we can do with our dog is just get their attention. Fine, we'll use getting attention as our starting point and an ending point is the down. A shaping plan will take those two endpoints, draw a straight line between the two and divide the line up into multiple interim behaviors as shown in Figure 2.

Step	Behavior
Starting Behavior	Getting attention
1	Sitting
2	Nose points to the floor
3	Butt shifts backward
4	Front paws move forward
5	Elbows touch the floor
6	Chest touches the floor
Ending Behavior	Laying Down

Figure 2 - Shaping Plan for Down Behavior

Clicker trainers create shaping plans so that they have a rough idea of what they need to reinforce during a shaping session. If I begin a shaping session with my dog and I get his attention, he gets a click and reward. If he sits, click and reward. If he looks at the floor in a sit position, click and reward. If he looks at me and barks, nothing happens. If he gets back into sit and looks at the floor, click and reward. If he pushes one or both of his front paws forward, click and reward. If he drops his elbows to the floor, click and reward. If he does a lap around the training area, nothing happens. If he comes back to me and sits, click and reward. This is the general progression of typical shaping session. Figure 3 is an illustration of a shaping session with Diesel, my 11 week old Aussie.



Just Before Shaping Session



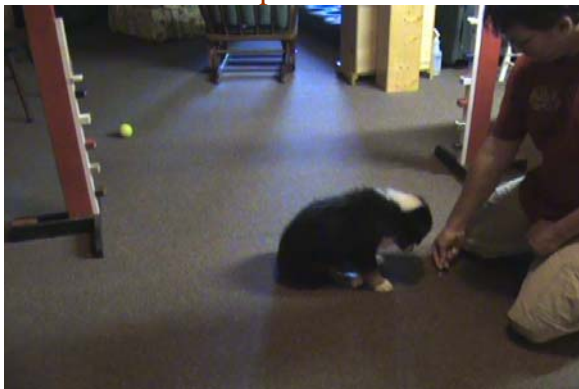
Starting Point – Getting Attention



Step 1 – Sit



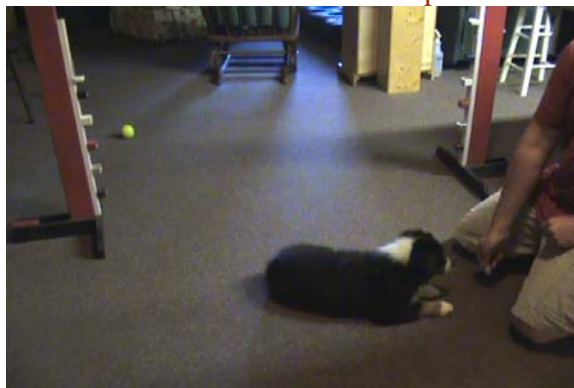
Step 2 – Nose Points Down



Step 3 – Butt Shifts Backward



Step 4 – Left Paw Shifts Forward



End Point – Down

Figure 3 - Shaping a Down with 11-Week Aussie Diesel

Behavior shaping reminds me a lot of a game I used to play with my brother when I was a kid. The game was called “Getting Warmer.” My brother used to love to hide my toys and when I’d ask him about their whereabouts, I’d often get a response along the lines of “Well, you’re really cold right now.” I’d move and he’d respond with, “Getting warmer.” Sometimes, I’d end up no where near my hidden prize and he’d respond with an “Ice cold. Brrr.” Eventually, I’d stumble onto the approximate hiding location with a succession of “Getting Warmer, Getting Warmer” comments from my brother and he’d exclaim that I was “Red HOT!” This is very similar to the shaping game clicker trainer’s play with their dogs. A key to success is having a good plan. When there is a good plan in place, clicker trainers can reinforce every little baby step made between the start and end points. Without a good plan, clicker trainers may be slow to reinforce, and the dog will quickly lose interest and find another game to play.

There is no such thing as a bad shaping plan. There are many shaping plans that will produce similar results. A good quote from Karen Pryor in [PRYOR1] states that “There are as many ways to teach a behavior as there are trainers to think them up.”

Summary

In this section, I have discussed the significance of developing a shaping plan. It is very difficult to shape behaviors without a shaping plan. Having a plan makes it easier to determine whether a step is reinforcement worthy. Without a plan, clicker trainer may find that they’re spending too much time deciding whether a particular step is reinforcement worthy and the dog may lose interest, moving onto some other fun and exciting game elsewhere.

Training

Introduction

The previous discussion talked about how to use reinforcement and a good shaping plan to develop a desired behavior. Once the dog understands what the desired behavior is, clicker trainers will put the behavior under stimulus control.

Stimulus Control

Stimulus control is a term used to describe when a cue consistently results in the dog performing the desired behavior. For example a dog’s sit behavior is said to be under stimulus control once the dog sits every time she is asked to. A cue is any signal that can be received by a dog via sight, sound, touch, taste, and smell that solicits a behavior from our dog.

Learned Behavior Pattern

In Carolyn Barney’s book titled “Clicker Basics for Dogs and Puppies”, she provides an excellent discussion that ties together cues, behaviors, consequences and stimulus control. See [BARNEY] for reference details. Carolyn calls it the ABC steps of behavior and training. “A” represents the cue, a.k.a. antecedent. “B” represents the behavior. “C”

represents consequence. Carolyn explains that previously learned behaviors progress in an A then B then C pattern, as follows:

A = Cue or Antecedent
B = Behavior
C = Consequence

The ABCs of a previously learned behavior for a dog that already understands the “down” command may look like the following.

A (Cue or Antecedent): Trainer signals a verbal “down” cue
B (Behavior): Dog lies down
C (Consequence): Trainer rewards dog

Teaching a New Behavior Pattern

Let’s say that we want to teach a puppy to perform a new behavior. We need to deviate slightly from the learned behavior pattern. To train a new behavior, we focus on B and C, temporarily leaving out A. Carolyn’s rationale for doing this is as follows:

- (1) Maximizes Learning
- (2) Increases quality of behavior
- (3) Improves stimulus control

In applying Carolyn’s steps to teach our puppy a new lay-down behavior, the steps are as follows.

~~A (Cue or Antecedent): Trainer signals a verbal “down” cue~~
B (Behavior): Dog lies down
C (Consequence): Trainer rewards dog

Shaping is a great way to help this puppy learn the new lay-down behavior. Once the puppy is consistently performing the correct behavior, then we can add cue into the behavior pattern. Depending on the complexity of the behavior, it may take multiple shaping sessions of B then C iterations to get your dog to consistently perform a behavior that matches your criteria.

Summary

To summarize, this section has provided a progression of steps to train new behaviors and contrasted these steps to behaviors that have been previously learned. The revised steps are necessary in order to help the training process be more efficient by maximizing learning, refining behavior and improving stimulus control.

Clicker Training Rules & Definitions

Introduction

The necessary foundation for clicker training has been provided in the preceding sections. Allowable consequences used in clicker training are positive secondary and primary reinforcement. A shaping plan is required to help clicker trainers identify what interim behaviors are reinforcement worthy. Lastly, clicker trainers train dogs using a **Behavior then Consequence** pattern. Shape the complex behavior using a good shaping plan and appropriate consequence. Once the dog is consistently offering the behavior, the **Antecedent** or cue is applied. The remainder of this section provides helpful rules and definitions to ensure productive clicker sessions with your dog.

Clicker Defined

A clicker is a tool that emits a unique click sound whenever its button is depressed. There is very little variability from one click to the next. Trainers can use “yes” or some other verbal marker instead of a click, but be aware of variation that could be introduced in the marker signal. The clicker makes the same sound no matter what, with very little variation.

Click & Reward - Always

Whenever a clicker makes a click, clicker trainers must reward. If you clicked by mistake, consider using variable reinforcement. Variable reinforcement is a term that describes the use of diverse value reinforcement. Low value treats, like cheerios could be used for clicker mistakes, while higher value treats like steak pieces could be used for behavior progression. Be aware that clicking without accompanying with a treat will erode the effectiveness of the clicker as a training tool.

Treat Size

Treats used during a clicker training session are small. They are pea sized for medium to large sized dogs, split-pea sized for small dogs. These treats are also soft and require very little chewing. Common treats include small bits of chicken, hot dogs, steak, and cheese. Dogs ingest these treats quickly and are ready to earn another instantly.

Treat Delivery

Delivery of treats is quick and the rate of reinforcement is high. Typically one click and reward is occurring every four seconds. Be aware that delays in treat delivery may result in inattentiveness. Practice clicking and rewarding without your dog to ensure that your body language will not interfere with dog’s behavior.

Clicker Charging

When introducing the clicker to a dog, clicker trainers must charge the clicker. This is the process of helping your dog associate the click sound with primary reinforcement. Typically, clicker trainers will charge the clicker by clicking and rewarding, clicking and rewarding, etc. This process will be repeated many times at the beginning of several training sessions. The result you are looking for is recognition of the click from your dog. Productive clicker

charging sessions will result in your dog immediately looking to you for a treat after hearing a click.

Session Duration

Clicker training sessions are short, typically lasting for five to ten minutes. Always end a session with a bunch of treats for free. Play a short game with toys, like tug or fetch. Always end a session on a good note.

Shaping Plan Deviations

When your dog makes a mistake or deviates from your shaping plan, ignore it. Many handlers often will say “no.” Remember from the learning theory discussion that this is positive secondary punishment. Punishment will discourage or suppress behavior. This will be counter productive to the clicker training session.

Behavior Proofing

When a dog is performing the behavior reliably on cue (at least 80% of the time), stop reinforcing for the behavior when the dog offers it unsolicited. This will teach your dog that it is only worth doing the behavior when she is asked to. Cue the behavior in a variety of environments and distractions to help the dog generalize that no matter where she is or what is going on, the cue means that she must perform and that she will be rewarded for it.

Additional Material

The previous sections discussed rules and definitions for clicker training needed to get started. Make sure that you review Carolyn Barney’s “Clicker Basics for Dogs & Puppies” for additional details as well as valuable tips on applying clicker training concepts, see [BARNEY] for reference details.

Summary and Conclusion

There is a lot to understand in order to be successful with clicker training. However, the benefits of this training approach are enormous. Karen Pryor provides more than adequate justification in her publications, which I won’t bother repeating here. Instead, I will elaborate in why I enjoy using clicker training with my dogs. It all boils down into having a good relationship with them. I’ve been to obedience class where trainers have told me that I have to jack my dog’s front feet up into the air by yanking on a prong collar in order to get behavior I desire. No thanks; there must be a better and more humane way of training. Fortunately there is, and it’s clicker training. Instead of correcting the bad, I’m focusing on the good. My dogs and I enjoy training time. My dogs are enthusiastic and motivated participants in the training process.

A lot of material has been covered in a very short period of time. By now, you should have an understanding of the clicker training basics. Positive primary (treats) and secondary (clicks) reinforcement are the building blocks of clicker training. You also understand that a clear shaping plan is critical in helping you identify and mark when your dog is on the right path to learning a complex behavior. Your click and reward mechanics must be refined enough to facilitate a high rate of reinforcement. You understand that cues for behaviors can

only be applied after your dog is performing the behavior reliably. Lastly, you are aware of beginner clicker training guidelines that will help your initial sessions be successful.

Next Steps

When your dog is performing a behavior on cue reliably you can begin to fade your use of the clicker, leaving only the reward. We recommend that you use a variable schedule of reinforcement. A variable schedule of reinforcement is a term which describes the use of randomizing reinforcement delivery such that the dog never knows which reliable behavior performance could yield the reinforcement. Over time, if you find that a behavior performance needs polishing, break out the clicker and tweak as necessary.

If you ever get stuck or have a question, feel free to call or email either Rob or Sue Thompson at Dogs Gone Wild, LLC. Our contact information is as follows:

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