# Learning Theory: Other Issues

## CC/OC Properties in Common

## “*Click&Treat*” Training

## OC Contingency Space

## Learned Helplessness

## Blocking

## Systematic Desensitization

Properties in Common

## Acquisition

## Extinction

## Spontaneous Recovery

## Generalization

## Discrimination

## Conditioned Reinforcement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | CR Praise word or “Click” ↓ |  |
| SD ”sit” | → | R sitting | → | S\* treat |

## Note: the CR is a CS & the S\* is a US, so this phenomenon involves both CC & OC.

## Skinner notes that the best way to reinforce a behavior with the necessary speed is to use a CR.

## In 1951, Skinner suggested the use of *“cricket”* (or clicker) for a CR since it is a “clear signal”.

## Note that one should also use a conditioned punisher or CP (sometimes).

Click & Treat

## Popularized by of Skinner’s student Karen Pryor & colleague Gary Wilkes.

## Unfortunately, some folks treat *“clicker magic”* more like a religion than a science.

## Earlier we noted *“accentuate the positive”.* The *Click&Treat* approach does this, but in some cases it is taken to an extreme which is not justified by the scientific data.

## CR Comparison

|  |  |
| --- | --- |
| Click Discrete Simple Consistent A gadget Emotionless | Word “Good” or “Yes” Blends in to other language Complex & variable (tone) Variable (used outside training) Readily available Has social element |

## Each technique has certain advantages & disadvantages.

## Clicker may be particularly good for training as opposed to maintenance phase.

## Clicker may also be a good tool for giving handlers a better sense of the timing involved.

## Cognitive View of CR’s

## According to this view, the CR (or CP) provides the organism with information.

### The CR says *“keep doing what your doing”* or *“you did great”*.

### The CP *“says stop that & try something else”*.

OC Contingency Space

## Again, there are 2 probabilities:

1. P(S\*/R)  
   Probability of the S\* occurring given that the R has occurred.
2. P(S\*/NoR)  
   Probability of the S\* occurring given that the R has not occurred.

|  |  |  |
| --- | --- | --- |
| S\* Type | S\*/R > S\*/NoR | S\*/R < S\*/NoR |
| Pleasant | Increase | Decrease |
| Aversive | Decrease | Increase |

Learned Helplessness

## LH refers to the fact that an animal exposed to uncontrollable, unpleasant events has a hard time learning that it has control when the events are once again controllable.

## In other words, a dog exposed to uncontrollable, unpleasant events will *“shut down”* and have a hard time learning anything new (except perhaps fear through CC).

## Seligman & Maier ‘67 Procedure

## Used a triadic design (or yoked control procedure).

## YS animal gets shock when ES animal does, but has no control over the shock (like the ES animal does). NS gets no shock.

## Summary

## The cognitive perspective would argue that during exposure to uncontrollable, unpleasant events, the dog learned that *“nothing it does matters”* & this expectancy later interfered with its ability to learn in a new situation.

## When a dog has learned helplessness, it will simply “*shut down*”.

## Thus, the dog must believe that it has some control over important stimulus outcomes.

Blocking Effect - Kamin (1968)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | Phase 1 | Phase 2 | Test | Fear shown |
| Exp | L-US | L/N-US | N | none |
| Cont | L-US | N-US | N | lots |
| Note: | L= Light | N= Noise | US= Shock |  |

## The experimental group did not learn anything about the noise.

## The reason is believed to be because it is redundant or, in other words, it does not provide any new information.

## This has implications for teaching a second cue (SD) for a command (e.g., hand signal/voice). In teaching, the new signal should slightly precede the old one. Overtime, the dog will begin to anticipate the old signal by responding to the new one (which is just what is wanted).

Systematic Desensitization

## A counter-conditioning procedure used to treat the symptoms of anxiety. 3 basic steps:

## Find or teach a response that is incompatible with anxiety. In humans, this is usually progressive muscle relaxation. In dogs, eating behavior is reasonably incompatible with fear. Play behavior (or any other activity the animal enjoys) can also be used. Actually, anything that produces tail wagging & postures indicative of a lack of fear would be good. Bill Campbell (1988) uses his *“Jolly Routine”*.

## Create an anxiety hierarchy. Ex. Fear of Men:

## in the same room ignoring.

## in the same room glancing at & talking to.

## sitting fairly close to but ignoring.

## sitting fairly close to & glancing at.

## giving a cookie.

## petting gently.

## have a 2nd man do all of the above (generalization).

## more vigorous petting.

## more vigorous approach.

## veterinarian performing an exam.

## SLOWLY (over an extended period of time) step through the hierarchy while having the animal perform the incompatible response.

## If the dog shows fear, back off to a previous level where the dog can be successful (not fearful).

## When the dog is able to tolerate the first item in the hierarchy without showing fear in a variety of contexts, it is time to move on to the next item, etc.