


**Stimulus
Discrimination
Learning**

**Doing the Right Thing at the
Right Time**




There are always other stimuli present (persons, places, things) around when a behavior is reinforced or extinguished which can affect conditioning.

Any situation in which behaviors can occur can be analyzed in three sets of events:

ABCs

1. antecedents -- the stimuli that exist right prior to the occurrence of the behavior
2. the behavior itself
3. and the consequences

This is often called an ABC Assessment (antecedent, behavior, consequence).



Stimulus control

- The control of a stimulus over a behavior as a result of that behavior having been reinforced in the presence of that stimulus.
- For example, if an adolescent cusses in the presence of his peers, but not in the presence of his parents, cussing behavior is under stimulus control. The stimulus is the presence of peers vs. Parents.

Stimulus control

- Braking behavior is under stimulus control of the red light.
- Refraining from putting money into a vending machine with an "Out of Order" sign is under stimulus control of the sign.



Stimulus control

- Through experience, we learn that emitting certain behaviors in the presence of certain stimuli will increase the likelihood that those behaviors will be reinforced.

Stimulus control

- Similarly, we learn to refrain from certain behaviors in the presence of other stimuli because those behaviors will go unreinforced.



Stimulus Discrimination Learning


- The procedure by which we learn to emit a specific behavior in the presence of some stimuli and not in the presence of other stimuli.

Two Types of Discriminative Stimuli:

- S^Ds -- a signal that a response will pay off; a response has only been reinforced in the presence of this stimulus
- S^As -- a signal that a particular response will not pay off; a response has not been reinforced (has been extinguished) only in the presence of this stimulus

Two Types of Discriminative Stimuli:

- Any stimulus can be an S^D for one response and an S^A for another.



Contingency of reinforcement

- The interrelationship among the three following three things:
 1. the occasion upon which a response occurs
 2. the response itself
 3. and the reinforcing consequences

Stimulus Discrimination Training

- the procedure of reinforcing a response in the presence of an S^D and extinguishing that response in the presence of an S^A .
- The effect of stimulus discrimination training is *stimulus control*.

Factors Determining the Effectiveness of Stimulus Discrimination Training

- 1. Choosing distinct signals.
- The authors offer assertiveness training as a practical example of techniques which help people present clearer discriminative stimuli to indicate their needs and feelings to others.

Questions to ask yourself when considering an S^D:

- Is the stimulus different from other stimuli along more than one dimension (location, size, color, sensory modality)?
- Is the stimulus one that can be presented only on occasions when the desired response should occur so that confusion with the occurrence of the stimulus on other occasions is avoided?
- Is the stimulus such that there is a high probability of the person attending to it when it is presented?
- Are there any undesirable responses that might be controlled by the chosen stimulus?

Factors Determining the Effectiveness of Stimulus Discrimination Training

2. Minimizing opportunities for error. (Preventing responding to S^Δs).
3. Maximizing the number of trials. This includes several trials of positive reinforcement in the presence of S^Ds as well as several trials of the behavior going unreinforced in the presence of S^Δs.
4. Make use of rules: Describe the contingencies.

Contingency-Shaped Behavior:


- Behavior that is developed by the direct-acting effects of reinforcement in the absence of any verbal descriptions of the contingencies to the learner.

Rule-Governed Behavior:

- Behavior that is developed by the description of the contingency of reinforcement; behavior that is governed by the statement of a rule.


Rule-Governed Behavior:

- Some of the most common S^Ds in the natural environment are rules, commands, directives, prompts.



Pitfalls of Stimulus Discrimination Training:

- Example: parents failing to follow through on consequences or giving a child multiple chances to respond.
- The child learns that he does not have to respond until the third or fourth order or until dad's voice level reaches a certain decibel.



Summary: Guidelines for Effective Stimulus Discrimination Training:

- Choose distinct signals
- Select an appropriate reinforcer
- Develop the discrimination by arranging for the learner to receive several reinforced trials in the presence of the S^Ds and several unreinforced trials in the presence of S^As

Summary: Guidelines for Effective Stimulus Discrimination Training:

- Specify the rules clearly, provide verbal cues, post rules conspicuously, be sure the learner is attending to the rules, emphasize cues dramatically
- Make changes from the S^Ds to S^As very obvious
- Wean the learner from the program once the behavior is occurring at the right place and at the right time at a desirable rate and eliminate contrived reinforcers, replacing them with natural reinforcers such as social approval.
