

Lecture 9

Book: Behavior Modification- What it is and How to do it

Chapter 9: Changing the Control of a Behavior with Fading

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Summary

Fading: It is the gradual change over successive trials of an antecedent stimulus that controls a response so that the response eventually occurs to a partially changed or completely new stimulus. Fading is involved in many everyday situations in which one person teaches a behavior to another person. Parents are likely to fade out their help and support when a child is learning to walk or to ride a bicycle. In any situation in which a stimulus exerts strong control over a response, fading can be a very useful procedure for transferring the control of that response to some other stimulus. 'Errorless discrimination training', sometimes referred to as 'errorless learning' is the use of a fading procedure to establish a stimulus discrimination so that no errors occur.

Dimensions of stimuli for fading: A dimension of a stimulus is any characteristic than can be measured on some continuum. Some examples are: loudness of a question, pressure of a teachers; hand that guides a child's printing, the clarity of dots that a child might be expected to trace etc.

Factors influencing the effectiveness of fading:

1. The final desired stimulus: The final desired stimulus should be chosen carefully. It is important to select it so that the occurrence of the response to that particular stimulus is likely to be maintained in the natural environment. Some fading programs make the error of stopping with a stimulus that does not include some aspect of the situation that the learner will frequently encounter in the natural environment.
2. The starting stimulus: A prompt- At the beginning of a fading program it is important to select a starting stimulus that reliably evokes the desired behavior. A prompt is a supplemental antecedent stimulus provided to increase the likelihood that a desired behavior will occur, but that is not the final desired stimulus to control that behavior.

- i) Instructor behaviors as prompts: ‘Physical prompts’ consist of guiding the learning through touch. E.g. holding children’s hands while teaching them to walk. ‘Gestural prompts’ are certain motions that a teacher makes, such as pointing to a correct cue or making signals directed to the learner without touching him or her. ‘Modeling prompts’ occur when the correct behavior is demonstrated. E.g. a swimming coach might model the correct arm movements for the freestyle stroke for young swimmers. ‘Verbal prompts’ are verbal hints or cues.
 - ii) Environmental alterations as prompts: Environmental prompts consist of alterations of the physical environment in a manner that will evoke the desired behavior. someone attempting to eat healthily, for example, might put a bowl of fresh fruit in easy reach while keeping junk food out of sight in a difficult to reach cupboard.
 - iii) Extra stimulus versus within – stimulus prompts: An extra stimulus prompt is something that is added to the environment to make a correct response more likely. A within stimulus prompt is an alteration of the discriminatory stimulus or the S delta to make their characteristics more noticeable and therefore easier to discriminate.
3. Fading steps: When the desired response is occurring reliably to the prompts given at the onset of the training program, the prompts can then be gradually removed over trials. The steps through which the prompts are to be eliminated should be carefully chosen. It is very important to monitor the learner’s performance closely to determine the speed at which fading should be carried out. It should be neither too fast nor too slow. If the learner begins to make errors, the prompts may have been faded too quickly or through too few fading steps. It is then necessary to backtrack until the behavior is again well established before continuing with fading.

Pitfalls of fading: Just as other behavior principles and procedures can be applied unknowingly by those who are not familiar with them, so can fading be misused. However, it appears to be more difficult to misuse fading inadvertently because the necessary gradual change in cues rarely occurs by chance.

Guidelines for the effective application of fading:

1. Choose the final desired stimulus: specify very clearly the stimuli in the presence of which the target behavior should eventually occur.
2. Select an appropriate reinforcer.
3. Choose the starting stimulus and fading steps
 - i) Specify clearly the conditions under which the desired behavior now occurs – that is, what people, words, physical guidance and so forth, presently are necessary to evoke the desired behavior.

- ii) Specify specific prompts that will evoke the desired behavior.
 - iii) Specify clearly the dimensions (color, people, room size etc) that you will fade to reach the desired stimulus control.
 - iv) Outline the specific fading steps to be followed and the rules for moving from one step to the next.
4. Put the plan into effect
- i) Present the starting stimulus and reinforce the correct behavior.
 - ii) Across trials, the fading of cues should be so gradual that there are as few errors as possible. However, if an error occurs, move back to the previous step for several trials and provide additional prompts.
 - iii) When the desired stimulus control is obtained, the learner can be weaned from the program.