Efficacy of Bridging Stimuli

Graduate student Lindsay Wood decided to study this question. She set up an experimental situation in which she trained shelter dogs, using shaping, a marker signal, and food rewards, to cross a room and bump a target with their noses. The trainer sat in a chair at some distance from the target. Ten dogs were chosen to be shaped using a clicker for the marker or bridging stimulus. Ten similar dogs were chosen to be shaped with the same training techniques but using the word "good" instead of the click. Each session was videotaped. The dogs trained with the clicker all learned the basic task, approaching and touching the target. Here is a summary of her experiment and results.

An Analysis of the Efficacy of Bridging Stimuli: Comparing the Clicker to a Verbal Bridge

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ABSTRACT

Acquisition of a multiple component task, such as approaching and touching a target apparatus on cue, plays an important role in animal training and husbandry. Experimental training of two groups of 10 naïve dogs (*Canis familiaris*) to perform the target task differed only by the assigned bridging stimulus: a clicker or spoken word "good." Although both types of bridging stimuli are used in the training field to indicate the precise instance of correct behavior, this study represents the first systematic comparison of the efficacy of these two types of bridging stimuli. There was a decrease of over 1/3 in training time and number of required reinforcements for the clicker as compared to the verbal condition group. The clicker trained dogs achieved behavior acquisition in significantly ($p < .05$) fewer minutes and required significantly fewer primary reinforcements than verbal condition dogs. The difference in effectiveness of the two bridging stimuli was most
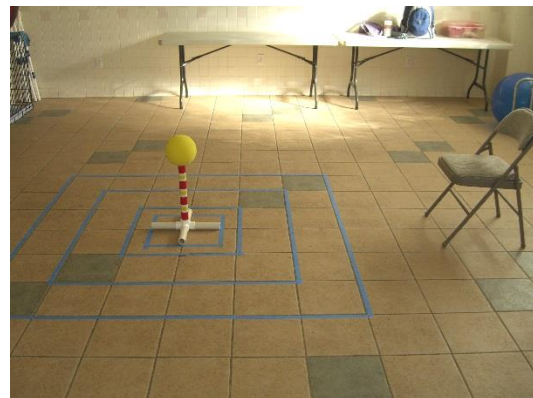
apparent at the onset of each new task component. It appears that use of the clicker, by providing a more precise marker than a verbal bridging stimulus, is responsible for superior acquisition of complex behaviors such as that studied here. The facilitation of learning provided by the clicker bridging stimulus has important implications for animal training, especially when professionals are confronted with time constraints. The potential of the clicker stimulus to improve animal learning throughout the entire process of a behavior may not only increase the rate of behavior acquisition, but also reduce animal frustration and further enhance the relationship between trainer and animal.

RESULTS

Training with a clicker bridging stimulus not only reduced the required amount of training time, but also the amount of food reinforcement needed to successfully teach the novel target behavior. Clicker trained dogs required an average of 83 primary reinforcements to reach the end of training, whereas verbal condition dogs required an average of 126 primary reinforcements.

Analysis of the initial training session revealed a significant effect of the clicker on behavior acquisition within the first day of training. In the first 20 minute training session, clicker condition dogs averaged successful completion of approximately 7 out of a possible 14 achievement levels, whereas verbal condition dogs successfully completed an average of only 4 out of 14 achievement levels. The facilitative effect of the clicker on the early stages of learning may be due to a more precise indication of correct behavior than that of the verbal bridging stimulus "good." Accurate, clear communication of information from trainer to animal results in faster learning at the very onset of training.