Efficiency of verbal and mechanical markers for training a difficult or simple behavior in pet dogs
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Methods and Design

Dogs were recruited from dogs owned by the clients and staff of embARK Dog Training, and by general publicity of the study in the city of Eau Claire. Dogs were at least 4 months of age, did not have current health problems that could impair mobility or cognitive abilities, and did not have significantly fearful or aggressive behaviors in a training class setting. Owners conducted the training of the dogs and were at least 16 years of age. Twenty-six dogs participated in the study.

Did the use of a marker decrease trials per step? Speed of learning was measured as trials per step: the number of trials a dog completed in a given step before being able to move on to the next step (or, in the case of the last step, before completing the behavior). Lower trials per step is equivalent to a faster learning speed. No effect of the training method on learning speed was found in the “toy in box” behavior (Figure Two). While there does seem to be an opposing trend between the behaviors (verbal marker had the fewest trials per step for the difficult behavior, but the most trials per step for the simple behavior), the high p values indicate this is almost certainly random variation in the data.

Did use of a marker help dogs learn the behavior overall? Overall learning within the three-week training period was measured in two ways: by the number of steps completed and by the number of dogs that completed or did not complete the behavior. This analysis did indicate that the designation of the “toy in box” as a difficult behavior and the “target” as a simple behavior was appropriate – all dogs learned the “toy in box” behavior within the three-week period, while only 13 of 21 dogs completed learning the toy box behavior. A Fisher Exact Test of the ratios of dogs that completed or did not complete the behavior showed that the variation is likely due to random variance (Table Two), and ANOVA of the steps completed did not indicate a significant difference (P = 0.25). There is a trend towards greater completion in the groups with audio markers, but it is not significant.

Discussion

There was no significant effect of any training method on canine learning, although there was a slight trend in the behavior completion measures towards lower completion in the food only group for the difficult behavior. Based on this data, it would be reasonable to recommend that pet dog trainers advocate for clickers and verbal markers based more on the dog’s preferences (such as the clicker) or on any effect that the clicker or verbal marker may have on the behavior itself. If the auditory marker is used as a conditioned reinforcer, the effect is not large enough to make a truly significant difference for pet dogs in the environment of a training class. This could simply be because many other signals of reinforcement that are portrayed in the body language of the owner are more integral to the dog’s learning than any additional auditory markers.

While no significant effect was observed in our study, other researchers have found that learning is enhanced by using a clicker or verbal marker (e.g., Langbein et al., 2007). Further research could attempt to discover what additional factors are required for this positive effect to occur. Langbein et al. (2007) used an automated system – perhaps the auditory marker is most beneficial when no trainer is present to provide feedback via body language. Another alternative is that dogs require more extensive experience with a clicker than was allowed by the three weeks of training, or more accurate timing than could be provided by pet dog owners who are not professional trainers, to receive any benefit in learning speed from an audio marker.

Finally, the audio samples taken during classes have not yet been analyzed. It is possible that there are traits of audio markers that influenced canine learning in this sample that were not present in enough dogs to create an overall difference between groups. Correlating canine learning with audio traits will reveal whether or not such a relation existed in this study.

References cited


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