

Implementing Environmental Enrichment for Dogs

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Introduction

Environmental enrichment is a concept that describes how the environments of captive animals can be changed for the benefit of the inhabitants. It seeks to enhance the quality of animal care by increasing behavioral diversity, reducing the frequency of abnormal behaviors, increasing the range or number of normal behavior patterns, increasing positive utilization of the environment, and increasing the ability of the animal to cope with challenges in a more normal way (Newberry, 1995; Tarou & Bashaw, 2007). Enrichment is important for canine well-being by helping to keep dogs in good physical and psychological condition. For example, dogs housed in barren or boring environments may develop abnormal behaviors as a result of poor coping strategies that include excessive licking or chewing of their feet, tails or other body parts. Such behaviors can result in self-injury. Increased or excessive vocalizations, such as barking; manipulation of enclosure barriers; digging or escaping from the yard; repetitive movement behaviors, such as circling or pacing; and coprophagy (eating feces) may also occur. Most of these behaviors are recognized as indicators of chronic stress (Pullen, 2010).

Types of enrichment

Five types of enrichment can be used to enhance an animal's quality of life — social, occupational, physical, sensory, and nutritional. Different forms of enrichment work separately and together to improve the welfare of dogs. For example, low walls or cage furniture give dogs



a better vantage point to view the surrounding environment. The increased visual access is both physically and visually enriching.

Enriching the environment of dogs in multiple ways stimulates dogs mentally by adding complexity.

Social enrichment refers to the practice of facilitat-

ing contact with dogs and other species, especially humans (Young, 2003). This can be done by walking dogs, taking them to dog parks or supervised play groups, and participating in obedience classes. Social enrichment can even include opting for group housing of compatible dogs, rather than solitary housing. Social living provides a constant source of complex mental stimulation (Humphrey, 1976). Social enrichment is not to be confused with socialization. Social enrichment fulfills dogs' needs to interact with other dogs and humans through housing and other encounters. Socialization is a guided and safe exposure to the environment the dog will live in so that he/she learns to be calm when exposed to new things. A well-socialized dog will not become fearful, over-stimulated, or aggressive when exposed to new people, dogs, places, or objects.

Occupational enrichment challenges dogs by giving them a "job" that encourages physical exercise and mental stimulation. While some dogs have a formal job (e.g. service dogs), most dogs can be provided informal forms of occupational enrichment to keep them mentally stimulated and prevent or alleviate boredom. Examples of occupational enrichment include sports



— e.g. fly ball, agility, or playing fetch, which also helps release excess energy — and obedience training.

Food puzzles provide nutritional enrichment while requiring dogs to think and “work” to get the treat out from the puzzle’s interior.

Physical enrichment includes altering the quality and complexity of the dog’s living space. Providing toys is one of the most common ways people attempt to enrich dogs’ environments. Interaction with toys may decrease a dog’s response to environmental factors (e.g. noise, strange people or dogs) and decrease arousal and related behaviors, such as excessive barking, digging, trying to escape and destroying property (Mason et al., 2007). However, toys must be carefully selected to be safe and of interest to dogs, and typically, toys should be rotated to maintain the effect of being enriching to dogs. A ball, for instance, may trigger interest in some dogs but not others. However, constantly providing the same ball and nothing else may result in waning interest over time. Ideally, one should not remove toys that remain enriching to dogs, but it is often a good idea to have a selection of preferred toys and alternate their use (Tarou & Bashaw, 2007). In cases where maintaining the cleanliness and presence of the toy in a kennel is a priority, toys should be chosen that can be presented not just on the floor, but safely attached to cage doors or other structures on which the dogs cannot get entangled or injured. One should also take into consideration the ability to sanitize toys to maintain the health of dogs.

In addition to toys, adding physical features to a pen, run or kennel can increase the complexity of the environment. Forms of physical enrichment for kenneled dogs include beds to sleep on (alternatives may be needed for dogs that eat or destroy their beds), a raised platform, or doors that allow the choice of being indoors or outdoors (Hubrect, 1993). These features provide dogs with more control over their social and physical environment, and depending on what is chosen, a more comfortable place to rest, a better view of their surroundings, access to outdoors, or a place to hide if frightened. Physical enrichments should provide outlets for positive expression of natural behaviors. For example, providing terriers with sandboxes in outdoor areas may allow them to engage in normal digging behavior in a manner that is not destructive to property and therefore more acceptable to their owners or caretakers.



Sensory enrichment can be used to stimulate the different senses of dogs, such as sight, sound or smell. Visual enrichment includes both stationary and moving visual images — being able to see inside or outside their environment, for example. For some dogs, having visual access to the rest of the kennel environment is important because it provides a sense of security. Visually stimulating objects can also be placed outside the dog run to add interest. Because some kennel environments can be loud and unpleasant for dogs, including auditory enrichment, such as music, may buffer the noise produced by people and other household or kennel equipment. Commercially available classical music CDs for companion animals (Wells, 2009) have been developed because, although the mechanism underlying this effect is not well understood (Kogan et al., 2012), studies show that classical music reduced stress levels and increased resting and sleeping in dogs. However, while auditory stimuli may be enriching, its use should depend on how the animals react to it, the sound should not be on all the time (they need a break from it), and volume should be kept low (<70 dB). What is most important is that the stimuli be tailored to the needs of the dogs rather than their caretakers. Many sounds that are pleasant to humans may be displeasing or distressful to dogs (Sales et al., 1997). Olfactory enrichment can also be used to stimulate a dog’s interest and may have some beneficial effects in mitigating distress. For example, Wells (2009) reported that placement of lavender-scented cloths in kennels had a calming effect, reducing the amount of barking and other activity.

Nutritional enrichment, also called feeding enrichment, encourages animals to perform natural foraging and feeding behaviors with the use of food as a reward (Young, 2003). Increased foraging behavior may decrease unwanted behaviors, such as excessive barking. Feeding enrichment may also help to increase physical activity, which can benefit the animal's physical condition. Examples of feeding enrichment include the use of puzzle feeders (mentioned previously under occupational enrichment). In addition, food hiding challenges dogs by encouraging them to search for food and to spend more time eating and displaying natural feeding behaviors (Schipper et al., 2008).

Conclusion

Various types of environmental enrichment can be used to stimulate dogs mentally and physically, reducing undesirable behaviors that may result from boredom and frustration. In addition, enrichment increases normal, desirable behaviors, such as problem solving and positive social interactions with others. Each of the different types of enrichment can be beneficial and cost effective to implement. Positive social interactions with caretakers, for instance, have no direct financial costs. Because enrichment tailored to meet dogs' needs can help improve many aspects of their health and welfare, it should be incorporated whenever possible into the standard management practices of kennels, short-term boarding facilities, laboratories and homes.

For additional information:

<http://centerforshelterdogs.org/Home/DogWelfare/Enrichment.aspx>

<http://www.dogster.com/lifestyle/dog-enrichment-training-for-dogs>

<http://www.animalfarmfoundation.org/pages/Kennel-Enrichment>

<http://www.embracepetinsurance.com/training/environmental-enrichment>

References

- Hubrect, R.C., 1993. A comparison of social and environmental enrichment methods for laboratory housed dogs. *Applied Animal Behaviour Science* 37, 345-361.
- Humphrey, N.K., 1976. The social function of intellect. In: *Growing Points in Ethology*. Cambridge University Press, Cambridge, UK.
- Kogan, L.R., Schoenfeld-Tacher, R., Simon, A.A., 2012. Behavioral effects of auditory stimulation on kenneled dogs. *Journal of Veterinary Behavior* 7, 268-275.
- Mason, G., Clubb, R., Latham, N., Vickery, S., 2007. Why and how should we use environmental enrichment to tackle stereotypic behaviour? *Applied Animal Behaviour Science* 102, 163-188.
- Newberry, R.C., 1995. Environmental Enrichment: Increasing the Biological Relevance of Captive Environments. *Applied Animal Behaviour Science* 44, 229-243.
- Pullen, A.J., Merrill, R.J., Bradshaw, J.W., 2010. Preferences for toy types and presentations in kennel housed dogs. *Applied Animal Behaviour Science* 125, 151-156.
- Schipper, L.L., Vinke, C.M., Schilder, M.B.H., Spruijt, B.M., 2008. The effect of feeding enrichment toys on the behavior of kenneled dogs (*Canis familiaris*) *Applied Animal Behaviour Science* 114, 182-195.
- Sales, G., Hubrect, R., Peyvandi, A., Milligan, S., Shield B., 1997. Noise in dog kenneling: is barking a welfare problem for dogs? *Applied Animal Behavior Science* 52 321-329.
- Tarou, L.R., Bashaw, M.J., 2007. Maximizing the effectiveness of environmental enrichment: Suggestions from the experimental analysis of behavior. *Applied Animal Behaviour Science* 102, 189-204.
- Wells, D.L., 2009. Sensory stimulation as environmental enrichment for captive animals: A review. *Applied Animal Behaviour Science* 118, 1-11.
- Young, R.J., 2003. Environmental Enrichment for Captive Animals. Universities Federation for Animal Welfare, Hertfordshire, UK.