

PROMPTING TURNING-OUT LIGHTS IN UNOCCUPIED ROOMS

RICHARD A. WINETT, PH. D.

*Department of Psychology
University of Kentucky*

ABSTRACT

A pilot study is presented in which a typically used sign and sticker were compared to larger, strategically placed signs that more specifically indicated the target behavior of this study—turning-out lights in an unoccupied room. The typical sign and sticker were ineffective while the signs developed for the study appreciably decreased unnecessary lighting. The results are discussed in terms of the development of other signs and prompts applied to unnecessary lighting and other environmental problems.

Various signs and stickers have been placed in many public buildings to promote energy conservation. Often these materials are attempting to provoke specific responses such as turning-out lights when a room or area is not in use. In behavioral terminology, signs and stickers are prompts, e.g., antecedent events used to facilitate a behavior [1]. Geller and his associates have employed primarily written prompts in a variety of settings to promote recycling of solid waste material and reduce littering [2]. Their work has shown that prompts generally affect the behavior of only about 15-20 per cent of the persons in a setting, and that the influence of prompts is transient.

However, not all written prompts are even minimally effective. Written prompts are more effective when they specify a behavior to be accomplished at a certain place and time. More general prompts (e.g., “conserve energy”) tend to be less effective.

Undoubtedly, other aspects of the prompt and its location also influence the prompt's effectiveness.

This paper reports on a pilot study evaluating typical signs and stickers displayed at the University of Kentucky. The signs and stickers were supposedly used to prompt turning-out lights in unused rooms and areas. Their effectiveness was compared to larger, more strategically placed, and more specific signs.

Method

SETTING

Three rooms in the psychology building at the University of Kentucky served as research sites. Two rooms, seating fifteen to twenty persons, that were primarily used for seminars and meetings, were control rooms. A large lecture room seating 220 persons was the experimental room.

DEPENDENT MEASURE

The rooms were observed¹ *once* each day between 5:45 and 6:30 when they were usually unoccupied. The observer noted if any of the lights had been left on and took additional measures noted below. The author also checked the rooms at least three times per week. When the observer's and author's time that the rooms were observed was within five minutes of each other, they agreed on the rooms' lighting in all instances. The experimental room had six switches controlling eight panels of overhead fluorescent lights, while the two control rooms each had two switches that controlled two overhead panels in one room and three panels in the other room of overhead fluorescent lights. However, all the lights were either on or off in each room whenever a room was observed.

DESIGN

The study was conducted during a six week period. For the first two weeks, the three rooms were observed (baseline) as they were, e.g., no stickers or signs. In the third week, a sign that had been mounted on campus bulletin boards was placed over the light switches in the experimental room *only*. The 10" × 15" sign was black and had printed in white and blue letters: "Every Little Light

¹ Janet Beadle did the observing.

Lit Hurts; Please Turn Lights and Electrical Equipment Off When Not in Use." The words "Little Light Lit" were enclosed in a depiction of a light bulb and a "hotline" number was given to call for suggestions about conserving energy.

In the fourth week, a small 2" X 2" sticker which said, "Turn This Light Off When Not in Use," was placed on the light switches in the experimental room *only*. The sticker was white with blue lettering and also had a depiction of an "energy conservation cat" printed on it. The sign placed in the experimental room in the third week also remained over the light switches in this week.

In week five, a large 2' X 3' sign was placed in the experimental room *only* at eye height near one of the room's two exits. The white sign which was lettered in black said: "Students and Faculty, Conserve Energy, Turn Out Lights After 5:00 PM or When No Class." The smaller sign and sticker were removed from the experimental room.

In the sixth week, the large sign remained in the experimental room, and two 1' X 2' white signs with black lettering were also placed in the room. One sign, placed over the light switches said: "Conserve Energy, Turn Out Lights After 5 PM." The other sign placed near the other exit said: "Faculty and Students, Turn Out Lights After 5 PM or When No Class."

Thus, the control rooms provided an indication of lighting in unoccupied rooms with no prompts, while the experimental room was used to evaluate typically used and specially developed prompts.

Results

Table 1 shows the percentage of the days² that the lights were left on in the three rooms. Only with the large, special signs was there an appreciable decline in lighting.

Table 1. Per cent Days Lights Remained on in Unoccupied Rooms

Room	Per cent days lights on					
	Weeks					
	1	2	3	4	5	6
1	60(B)	75(B)	80(B)	60(B)	80(B)	100(B)
2	100(B)	80(B)	75(B)	75(B)	75(B)	80(B)
3	100(B)	80(B)	100(S)	100(S+St)	40(P)	40(3P)

Note: B = Baseline or control conditions; S = University sign; St = University sticker; P = One Large, special sign; 3P = Three large, special signs.

² On some days, the rooms were occupied. These days are not included in the data.

In the two control rooms, the lights remained on during 78 per cent of the days for the six week period. In the experimental room, for the first four weeks, the lights remained on for 95 per cent of the days. During the last two weeks, they were on for 40 per cent of the days. The university's sign and sticker were ineffective.

Discussion

This pilot study has shown that lights are frequently left on in unoccupied rooms and that frequently used signs and stickers may not affect this situation. More specific, larger, more strategically placed signs, as suggested by research in related areas [2], might be more influential. Experimental analyses can tease-out the most efficacious factor(s) of such prompts.

To gain some additional data on the degree of lighting in unoccupied rooms in other parts of the campus, eight rooms in a large classroom building and three rooms in a smaller classroom building were observed by the author five times during the study after 5 PM when they were unoccupied. In the large building, lights were left on about 80 per cent of the time, but were left on only about 20 per cent of the time in the small building. Thus, at least in some other buildings, unnecessary lighting is probably a substantial problem.

The university sign used in this study had been placed on most campus bulletin boards. Besides being ineffective when placed directly in a room, its mounting on these bulletin boards seemed even more ineffectual. For example, the university sign used in this study was found on a 3' × 7' bulletin board that had eighty-seven other signs and notices on it! Assuredly, the literature [2] and "common sense" dictate more care in placement than was shown with these signs.

Other measures taken by the observer included three litter counts in the experimental room, a recording of windows open and radiators supplying heat, and air conditioning thermostat setting. In the experimental room, the air conditioning thermostat's average setting was 69° regardless of the temperatures outside which varied between 27° and 82° (F) during the study. The air conditioning was on 69° even when the heat remained on and a window was open. About 100 pieces of litter were left in the experimental room.

While these data probably depict an extreme situation, even lesser amounts of "environmental abuse" deserve the careful application of prompts and other documented techniques to promote proenvironmental behaviors.

REFERENCES

1. A. E. Kazdin, *Behavior Modification in Applied Settings*, Dorsey Press, Homewood, Illinois, 1975.
2. M. A. Tuso and E. S. Geller, Behavior Analysis Applied for Ecological Rebalance: A Review, *Journal of Applied Behavior Analysis*, 9, p. 526.

Direct reprint requests to:

Richard A. Winett, Ph.D.
Institute for Behavioral Research
2429 Linden Lane
Silver Spring, Maryland 20910