

# Attention to Color in Children's Word Learning

Charles A. Saxon (CSAXON@INDIANA.EDU)

Linda B. Smith (SMITH4@INDIANA.EDU)

Department of Psychology and Program in Cognitive Science, Indiana University  
Psychology Building  
Bloomington, IN 47405 USA

## Children's Difficulties With Color Words

Charles Darwin's children had such difficulties learning color words that he actually speculated that his children might be color blind. While children struggle learning the names of colors, they can perceive, discriminate, and remember color in much the same way as adults, given non word-learning tasks. For example children can match colors in "follow-the-leader" type tasks, or recognize a toy as one seen previously based only on color.

One explanation for children's difficulties is that they do not know that color is relevant for word learning. Several previous findings suggest that before children can learn color words they must learn to attend to color in word learning tasks. First, children often learn that the color words are subordinate members of the category of color, before they can label any color with the correct color word (Baksheider & Shatz, 1993). Second, some reports suggest that before children learn to name colors in general, they can learn to name a specific object based on color (Soja, 1994). Third, some children learn colors first in the context of characteristically colored objects (e.g., green grass, red apple) (Mervis, 1992).

These results suggest that children will come to attend to color in a word learning task when they can make mappings between color words and a few specific individual objects of that color. Whether the mapping is initially to color alone rather than a specific object may be less important than the strength of the connection.

## The Experiment

Two-year-olds (96% white, 50% female) were seen in a laboratory play room for one half-hour session. Each was assigned to one of two different conditions. In all conditions there was a comprehension pre-test, followed by a training phase and a post-test. For the pre-test children were shown three patches of colored cloth (red, green, and yellow) and asked for each of the colors twice. In the training phase children played a game in which three toys (red, green, and yellow) were set out and named by color, this was considered the "reference" set. Next, three more toys, the "matching" set, also painted red, green, and yellow, were set out and children were asked to put the red/green/yellow ones

together. Only the training phase was varied between conditions. For the first condition the "reference" set was identical toys that varied only by color. For the second condition the "reference" set was of different kind and size, in addition to color. Finally, for the post-test new toys were shown to the child, one set at a time, and they were asked to point to them by color.

The Results show that children who learned to associate a color term with a member of the reference set showed better transfer in the post-test. In addition, the differences between the two conditions demonstrate that children's attention was affected by the similarity of the reference set. This research provides new insights into children's difficulties with color words and the processes that underlie learning in general.

## References

- Baksheider, A. G. & Shatz, M. (1993). Children's acquisition of the lexical domain of color. In K. Beals et al. (eds.), *What we think, what we mean, and how we say it, Papers from the parasession on the correspondence of conceptual, semantic and grammatical representations*. CLS 29, v. 2. Chicago: Chicago Linguistics Society.
- Mervis, C. B., Mervis, C. A., Johnson, K. E. & Bertrand, J. (1992). *Studying Early Lexical Development: The Value of the Systematic Diary Method*. In C. Rovee-Collier & L. Lipsitt (Eds.), Advances in infancy research: Vol. 7 (pp. 291-378). Norwood, NJ: Ablex..
- Soja, N. N. (1994). Young children's concept of color and its relation to the acquisition of color words. Child Development, 65, 918-937.