



Figure 1. How the color yellow is learned over time. In competitive discrimination learning, positive evidence (reinforcement) increases associative value for cues, whereas negative evidence (prediction-error) correspondingly decreases value. In the left panel, each of the features present potentially predicts “yellow.” In the left panel, many of these unhelpful features will later erroneously cause “yellow” to be expected when “red” is heard. Because these unhelpful cues will result in prediction-error, they will lose value as cues to “yellow,” both in this instance, and in other cases where they erroneously predict a color word. Further, because discrimination learning is competitive, this will cause them lose associative value to more reliably predictive cues (namely, the hue yellow) over time. Because learning is facilitated both by positive evidence – hearing the word “yellow” after seeing the hue yellow – and negative evidence – unlearning erroneous cues to “yellow,” like round and cute, it follows that provided that the relationship between color words and hues is reliable, the hue yellow will eventually be learned as the meaning of “yellow.”