

“Good-enough” production: accessibility influences choice of taxonomic level

Crystal Lee, Casey Lew-Williams, and Adele Goldberg (Princeton University)

Speakers often have a choice in how to label referents (e.g., *flower* vs. *rose*), and the most informative or ideal descriptions are not always used. For example, a sieve maybe called a *strainer*, or a caterpillar, a *bug*. We hypothesize that accessibility (ease of retrieval) predicts the use of such under-informative language. Specifically, we predict that there are conditions that restrict accessibility, under which speakers will produce less ideal but more accessible constructions that are “good enough” to convey the intended message [1]. Thus we suggest “good-enough production” exists in a way that parallels “good-enough comprehension” [2-4]. Critically, we predict that speakers produce descriptions that are “good enough” but not ideal, even when they have the requisite knowledge required to produce the ideal option.

In a preregistered study (<https://osf.io/r2t5y/>), we taught online participants ($n=100$) specific and general category names (e.g., *lantana* and *flower*) associated with images of 6 unfamiliar flowers and 6 unfamiliar weeds. Participants had to successfully produce at least 75% of the newly learned labels after a maximum of three learning cycles to continue to the main task, which required them to label images of the flowers or weeds they had just learned. Participants earned a small monetary reward for correctly using general labels (*weed* or *flower*), and earned twice the reward for correctly producing the newly learned specific labels. No reward was given for incorrect responses. Thus, specific labels were the ideal responses, and general labels were “good-enough.”

We manipulated the accessibility of labels in three ways. Half of participants were required to respond in under 3 seconds, which was intended to simulate naturalistic communicative demands; the other half had no time constraint (Speeded vs. Un-speeded conditions). Between the initial exposure and the main production task, all participants performed an intermediate filler task that required them to produce *flower* and *weed*, one three times as often as the other (Primed vs. Un-primed). Finally, half of participants learned visually unambiguous weeds and flowers, and half were tested on a subset of weeds that could be mistaken for flowers and *vice versa* (Interference vs. Non-interference). All items were normed separately.

We found a strong effect of time pressure on “good-enough” productions (Figure 1): participants produced significantly more category responses in the Speeded condition than the Un-speeded condition ($\beta = 1.07$, $z = 4.8$, $p < .001$). The priming manipulation yielded null results, likely because both category labels (*weed*, *flower*) were highly accessible, regardless of the priming manipulation. Few errors were produced (30 out of 1199 responses) and were almost entirely restricted to the subgroup who learned plants that were ambiguous between weeds and flowers (Interference: $\beta = 1.85$, $z = 3.3$, $p < .01$) and had to respond under time pressure ($\beta = 1.04$, $z = 3.0$, $p < .01$), with zero errors in the Non-interference, non-speeded subgroup.

After the main task, participants performed a two-alternative-forced-choice task on the specific labels they had been taught to ensure that they were familiar with the newly learned terms, even if they had produced good-enough (general) descriptions. For this, participants were given a specific label and two familiar images and were asked to identify the correct image. As intended, accuracy was very high ($M = 0.97$).

The current results suggest that speakers tend to produce a “good-enough” description when an ideal description is not sufficiently accessible at the moment of speaking. Good-enough production is particularly influenced by the time-pressure involved in natural, conversational dynamics, where the limited time between conversational turns creates a bottleneck on lexical retrieval. This work offers new insight into why it is so common for even fluent speakers to produce non-optimal words and sentences. Future work will test the same design with children, who are expected to rely more heavily on good-enough production, as they are likely to find it even more effortful to access ideal choices under naturalistic communicative demands.

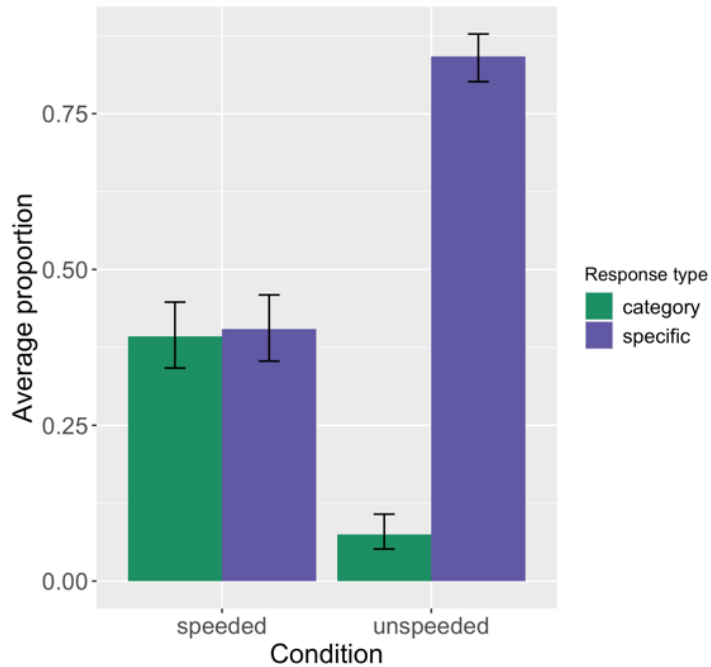


Figure 1. Average proportion of responses (category or specific) by condition (Speeded and Unspeeded).

- [1] Koranda, M., Zettersten, M., & McDonald, M. (2018). Word frequency can affect what you choose to say. *Proceedings of the 40th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- [2] Christianson, K., Hollingworth, A., Halliwell, J. F., & Ferreira, F. (2001). Thematic roles assigned along the garden path linger. *Cognitive psychology*, 42(4), 368-407.
- [3] Ferreira, F., Bailey, K. G., & Ferraro, V. (2002). Good-enough representations in language comprehension. *Current directions in psychological science*, 11(1), 11-15.
- [4] Ferreira, F., & Patson, N. D. (2007). The 'good enough' approach to language comprehension. *Language and Linguistics Compass*, 1(1-2), 71-83.