

Miming Makes it Memorable?

Investigating the Role of Iconic Signs in Memory

State University of New York College at Geneseo and University of Rochester

Clarissa Saad, Laine Silverman, McKenna Oley, Sarah Daniels, Madeleine Mann, Jason D. Ozubko

GENESEO
THE STATE UNIVERSITY OF NEW YORK

UNIVERSITY of
ROCHESTER

Abstract

One useful mnemonic technique to improve memory retention is the production effect: the finding that information is remembered better when actively produced (i.e., spoken aloud or signed), than when it is passively received (i.e., read silently). Regarding how signing can help memory, we developed a study to investigate how the role of “iconicity”. Iconicity is the extent to which the form of a sign resembles its meaning. For example, in ASL, the sign for “book”; involves holding a closed, imaginary book with both hands, and then opening it with a quick flick of the wrists. The sign for “book” is much more iconic than the sign for other words, such as “justice” or “parent”, because the forms of these signs do not resemble its meaning. We hypothesize that one reason signing may be a highly effective mnemonic is that many signs are iconic of their referent words, meaning that signing can be thought of as “acting out” a word or action. In our study, subjects were shown a list of words that varied in ratings of iconicity (high or low), and signed some of the words. Later, their memory for these words were tested. Our results suggest that iconic signs were easier to remember than non- iconic words however, this effect held true for both signed and non-signed items. Overall, iconicity may thus enhance memory, but also may not depend on signing, a concept we are exploring with further research in the lab.

Methods

To gather participants, we recruited students in a sign language club at the University of Rochester. The participants completed an online study. Figure 1. Shows an example of what participants saw in the experiment.

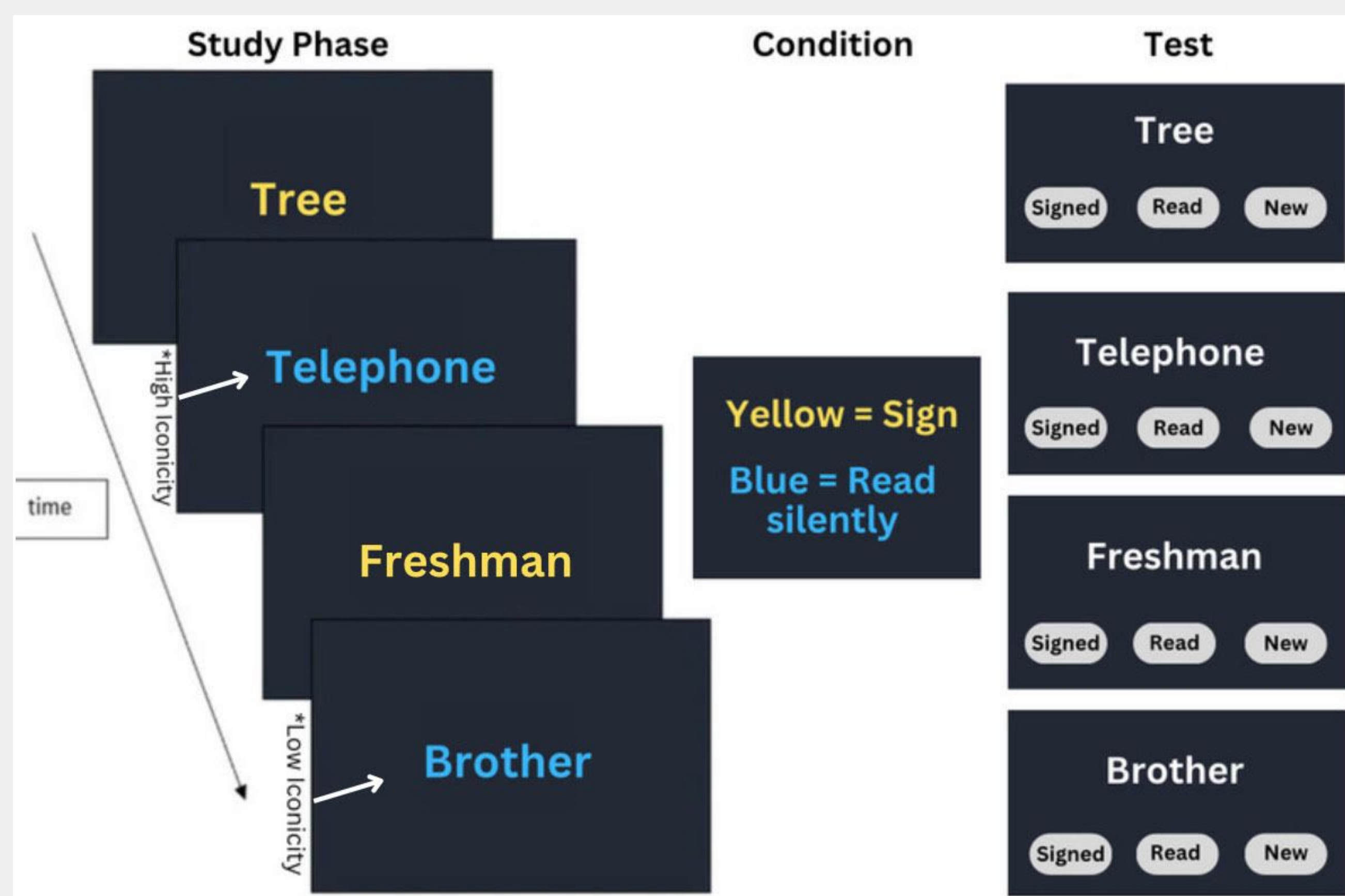


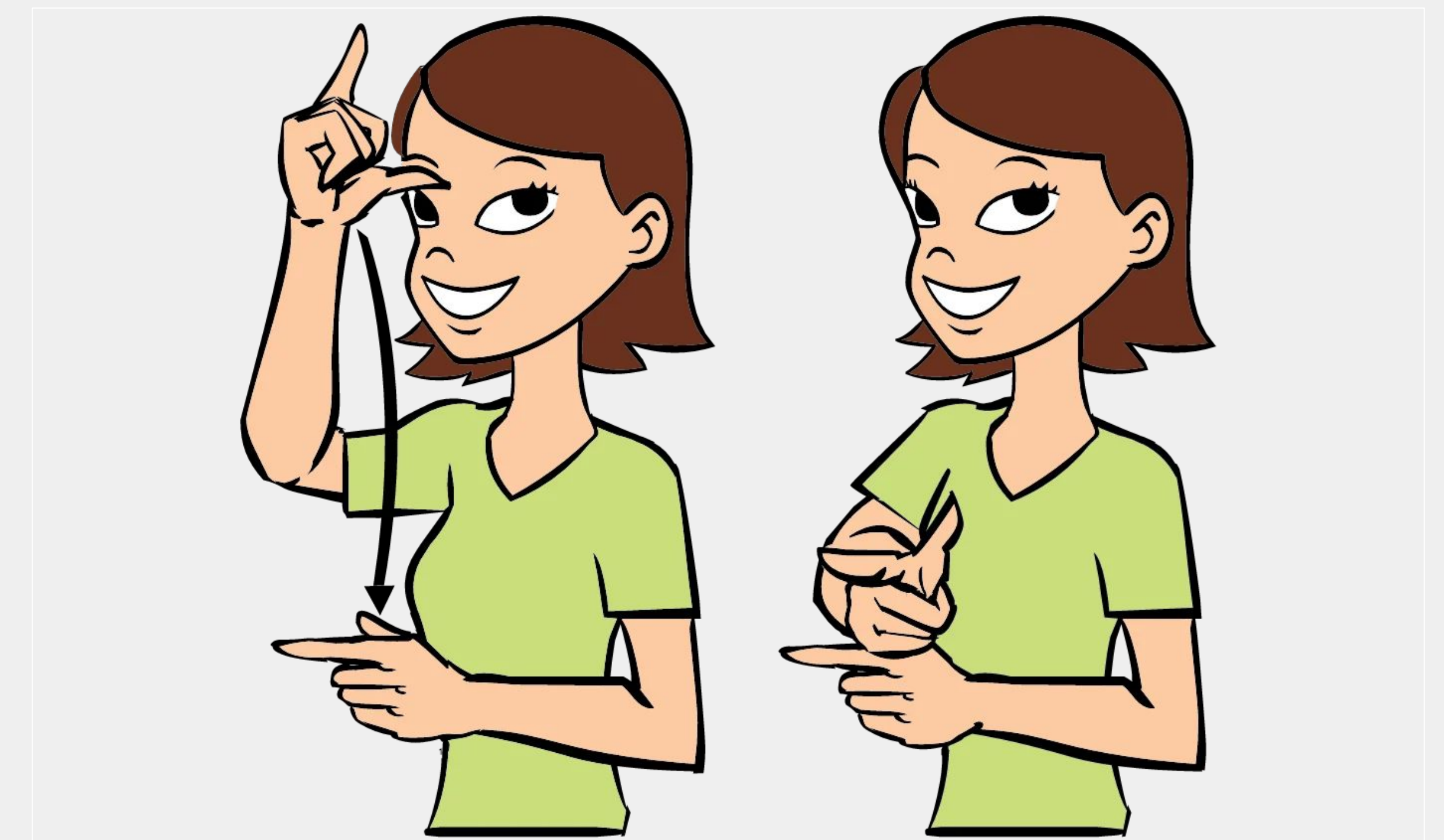
Figure 1. The figure depicts the study phase, condition, and test phase. Not shown here is that, participants had to rate the iconicity of all the words shown. (These data not used here, iconicity ratings used came from pre-ratings by other subjects).

Iconicity Example

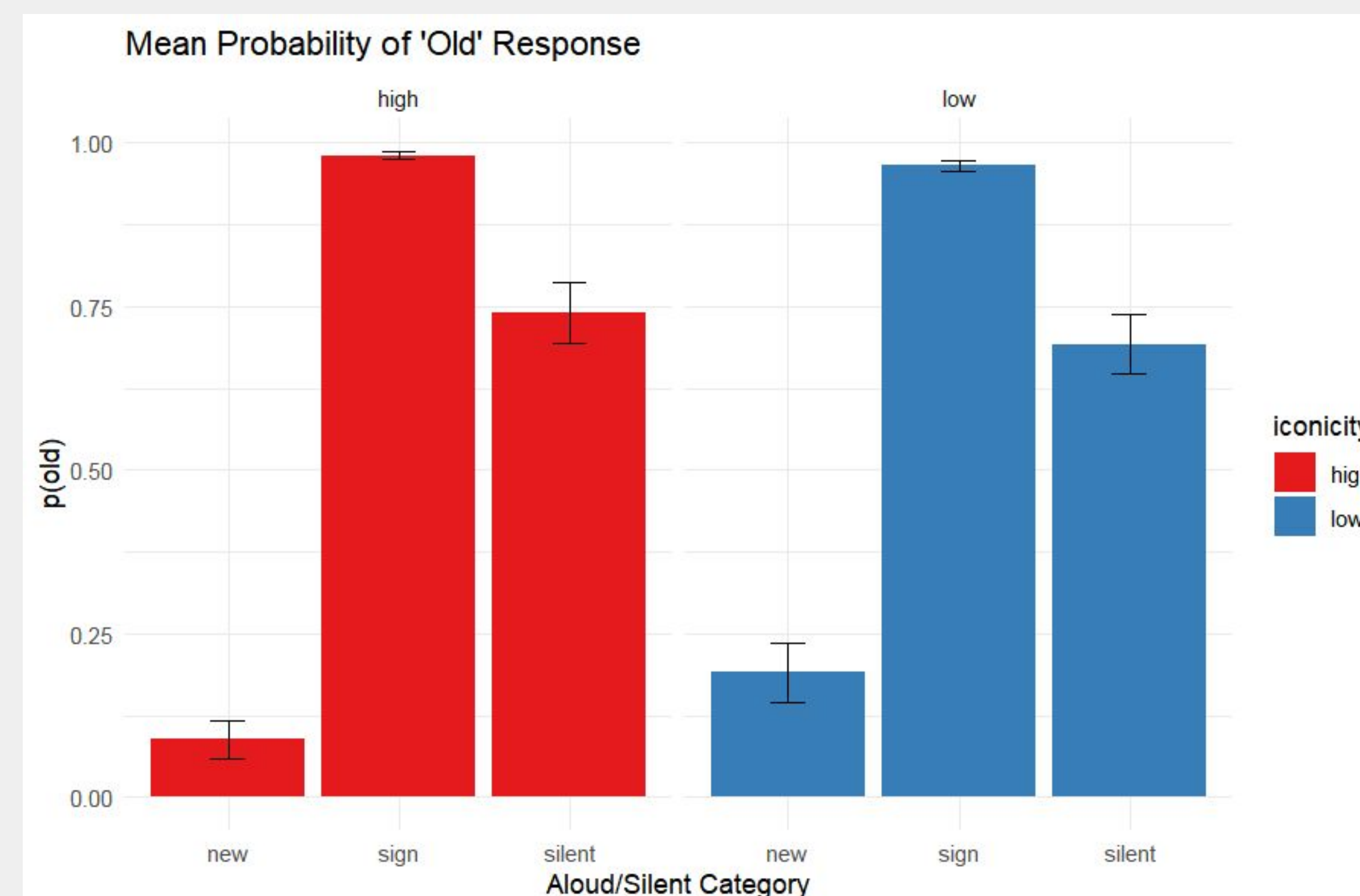
ASL Sign for “Telephone” - High in Iconicity



ASL Sign for “Brother” - Low in Iconicity



Results



** indicates a p-value of less than 0.01 and * indicates a p value of less than 0.05

- Before conducting the study, we anticipated that in the signing condition, high iconicity items would be remembered better than low iconicity items, while in the silent condition, we expected no significant difference in memorability between high and low iconicity items.
- In both the signing and silent conditions, we found that participants consistently recalled high iconicity items more effectively than low iconicity items.
 - Signing - high vs low -> $p = .05$
 - Silent - high vs low -> $p < .05$
- Our findings were consistent across both conditions, showing that high iconicity items were consistently more memorable than low iconicity items.

Discussion

- There is an overall improvement in memory when words are higher in iconicity, for both signed and non-signed items.
- In the future, we hope to perform this experiments on non-signers to see if there are any differences in the important of iconicity for memory retention.

Recognition

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