



developmental, and cross-cultural studies of drawing perception. For example, higher non-human primates<sup>14</sup>, human infants<sup>15</sup>, and human



suggesting at least some general benefit of task practice. Critically, however, we also found a reliable interaction between phase and condition: communicative efficiency improved to a greater extent for repeated objects than control objects ( $b = -0.16$ ,  $t = -3.17$ ,  $p = .002$ ) see Fig.





We included fixed effects of phase (pre vs. post) and condition





Communication experiment  
Participants







Supplementary information The online version contains supplementary material available at <https://doi.org/10.1038/s41467-023-37737-w>.

Peer review information *Na e C. C a .* thanks Riccardo Fusaroli and the other, anonymous, reviewer(s) for their contribution to the peer review of this work.

Reprints and permissions information is available at  
[http://www.awandRobewi.\(w\)15.69999mi.\(w4.199999876\(t\)ra\)2.73Tc\[and217.39999961pTD.899993847.399993999939\(Ha23\)4.1999998\(s\)-279.60000](http://www.awandRobewi.(w)15.69999mi.(w4.199999876(t)ra)2.73Tc[and217.39999961pTD.899993847.399993999939(Ha23)4.1999998(s)-279.60000)