Communication Breakdown Induces Audience Design Strategies

Jennifer M. Roche  jroche@rochester.edu
Rick Dale  rdale@ucmerced.edu
Roger J. Kreuz  rkreuz@memphis.edu

Background
Contextual ambiguity is difficult to recognize. Speakers in these contexts are often not aware of the ambiguity at all (Kraljic and Brennan, 2005). Goal: determine if nov-verbal feedback mediated by cognitive load (time pressure) will increase disambiguation.

Participants
~16 undergraduate students (per Experiment; mean age: 21 years).

Stimuli (Exp. 1, 2 & 3)
Picture & Pre-recorded Auditory Stimuli
Container + Object: “Put the paperclip in the cauldron on the stop sign.”
Container: “Put the flowerpot on the circle.”
Object: “Put the hammer on the rectangle.”
Geometric: moon, circle, rectangle, diamond, octagon, cross, triangle, heart

Pseudo-Confederate Response Videos:
Correct: Correct object was moved.
Mixed: Incorrect objects moved (7/24 trials) + Correct objects moved

Procedure
Visual Display

Experimental Conditions

Experiment 1
Miscommunication Cue: Present vs. Absent

Experiment 2
Time Pressure (Mistake Present vs. Absent)
Time limit: + 1 (< 7 sec instruction)

Experiment 3
Early Time Pressure
Late Time Pressure

Results
Model(s): Mixed fixed/random effects models
Dependent Measure: $p(\text{disambiguation})$.

Experiment 1
(Miscommunication Cue: Present vs. Absent)
• Hypothesis: A visual cue to ambiguity increase disambiguation, relative to no cue at all.
• Result: A mistake cue (30% of C+O trials) increased disambiguation

Experiment 2
(Time Pressure: Present vs. Absent)
• Hypothesis: Time pressure should have an effect on monitoring miscommunication and planning productions.
• Result: Time pressure reduces the likelihood an interlocutor will disambiguate

Experiment 3
(Varying Time Pressure: Early vs. Late)
• Hypothesis: Time pressure may only hinder production execution, but monitoring and production planning may still occur.
• Result: Time pressure reduces the likelihood an interlocutor will disambiguate

Discussion
• Language does not always help communication.
• When language fails, non-linguistic feedback is helpful.
• Except when cognitive load hinders its integration for disambiguating (e.g., time pressure).
• An “ease of production” strategy was elicited when the production system is loaded (Horton & Gerrig, 2005; Roßnagel, 2000).
• Cheap and simple strategies win when the system is taxed (Horton & Keyser, 1996; Shintel & Keyser, 2009).
• However, interlocutors will monitor and adjust their behavior towards the needs of their audience.
• Once the best strategy is formulated, it should persist.

References


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