Efficient adaptation to listener proficiency: The case of referring expressions

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Link for the preprint

Introduction

Speakers are communicatively efficient [1]: Balance efficiently between minimizing production effort and maximizing understandability

- Avoid ‘costlier’ linguistic material when possible
- Use ‘costlier’ linguistic material when understandability is at risk

What can endanger understandability?

- Low predictability of the linguistic message (e.g. [2])
- Noisy environment (e.g. [3])
- Listeners’ comprehension difficulty

The impact of listeners’ comprehension difficulty on speakers’ speech:

- Speakers increase linguistic material in local cases of misunderstandings [4]
- Speakers also modify their speech based on global estimations of listeners’ knowledge state [5]

Speakers should increase linguistic material when conversing with language learners

Increased linguistic material when conversing with (L1) language learners:

- Predictable words are reduced less in CDS compared to ADS [6,7]
- Vowels are hyperarticulated more in CDS [8]
- Parents talk less redundantly to their infants as they grow older [9]

Is this adaptation driven by listeners’ perceived language proficiency or by their perceived general cognitive capacities?

Do speakers use increased linguistic material with L1 and L2 learners alike?

Case study: Referential choice

- Pronouns are typically shorter (and perhaps easier to produce) than full NPs [10]
- Communicative efficiency: Pronouns should be used less when understandability is at risk [11]

Speakers should use pronouns less when conversing with language learners

Picture book elicitation task

- Tested the impact of listeners’ proficiency on usage of pronouns vs. full NPs:
  - L1 listeners: developmental (26 dyads of parents and children 1;4–5;6y)
  - L2 listeners: native vs. non native adult speakers (n=58, 2 confederates)

- Calculated pronoun ratio per character: pronouns/all mentions
- Pronoun ratio should be lower when talking to learners compared to proficient speakers:
  - L1 listeners: should increase with age
  - L2 listeners: should be higher when talking to the proficient speaker confederate

L1 listeners results:

L2 listeners results:

Discussion

- Speakers use more linguistic material when talking to language learners compared to proficient speakers – L1 and L2 learners alike (though stronger effect size for L1 learners!)
- Supporting the idea that referential choice is impacted by communicative efficiency (see [10])
- Open question: The role of the learner type (L1/L2) in processes of language change (see [12])

References (clickable links)