Does learning how to read affect the way you speak? Preliminary insight from German beginning readers

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PredictAble

Understanding and Predicting Developmental Language Abilities and Disorders in Multilingual Europe

Universität Potsdam

LOLA

Laboratory for Oral Language Acquisition

University of Potsdam

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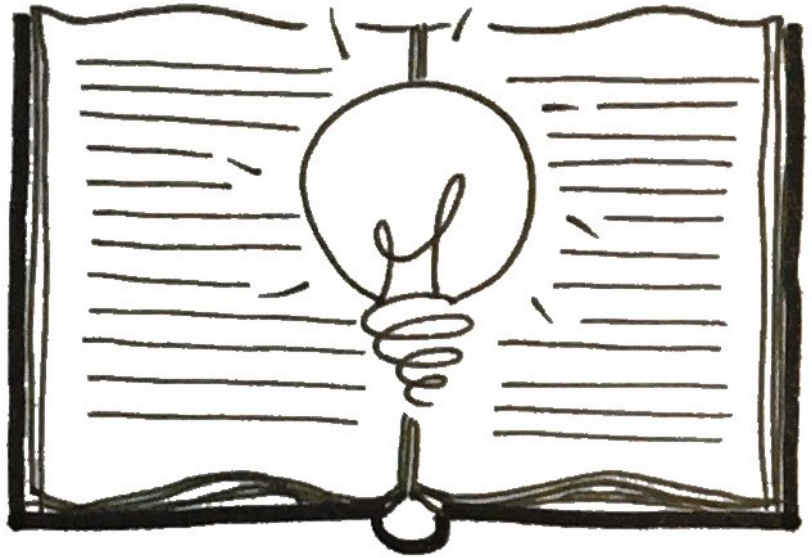
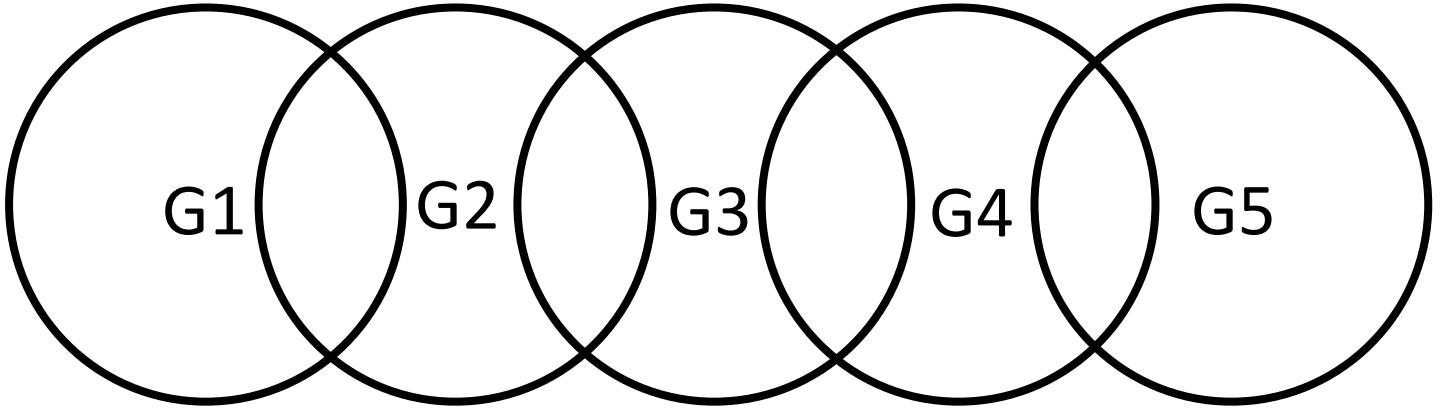
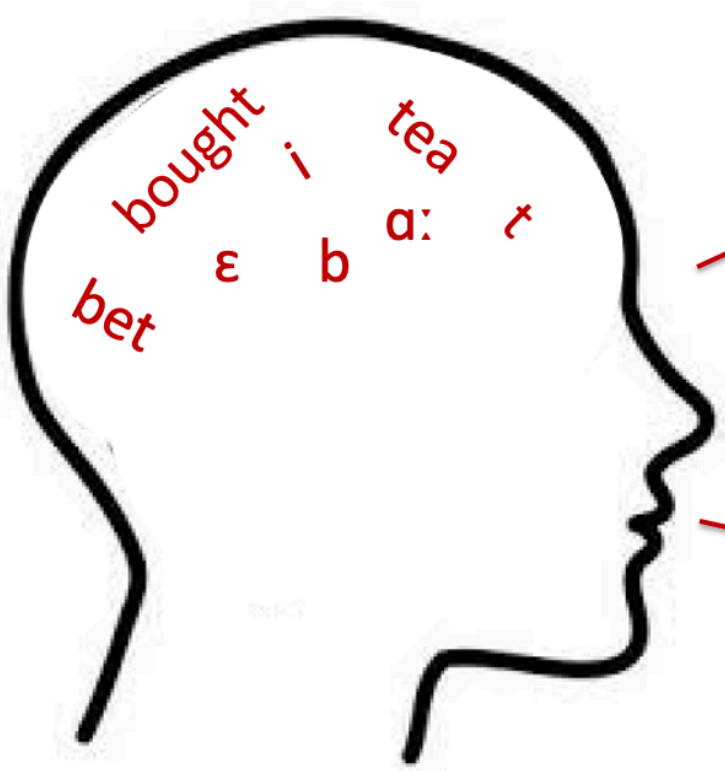
Introduction





Introduction



b e t

b o u g h t

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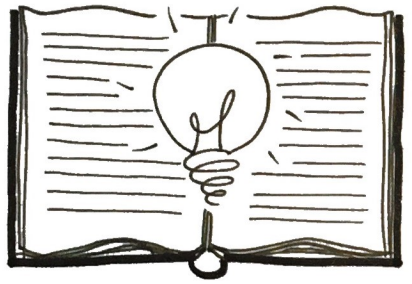
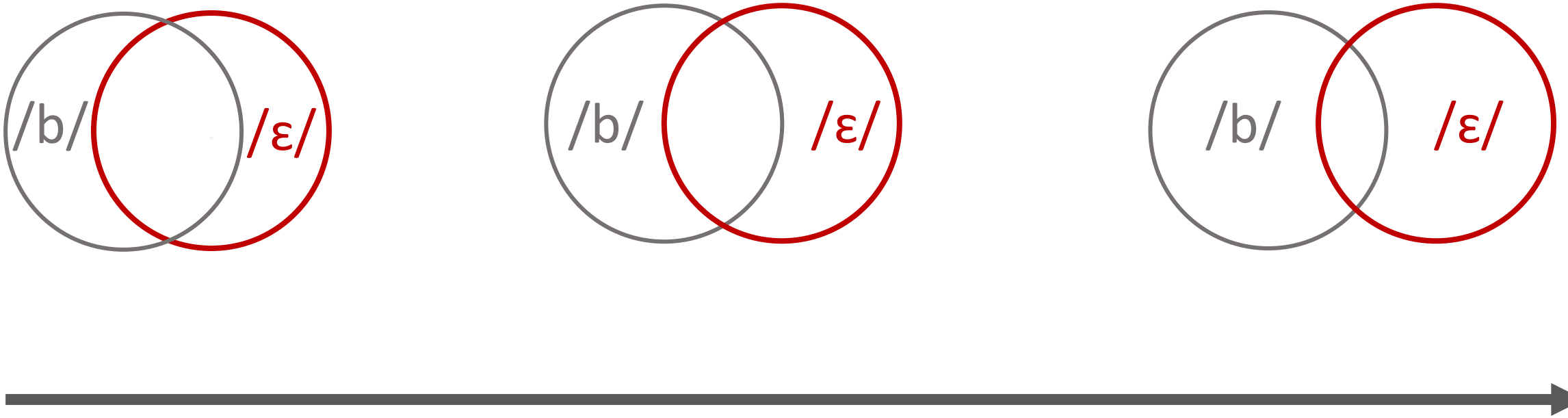


Coarticulation patterns



Research questions

- Is there a link between speech and reading fluency?
- Are coarticulation patterns affected by reading acquisition in a alphabetically transparent language?
- Do children reorganize their speech patterns to accommodate newly acquired segmental units?

Phonological awareness and coarticulation

Coarticulation
Degree

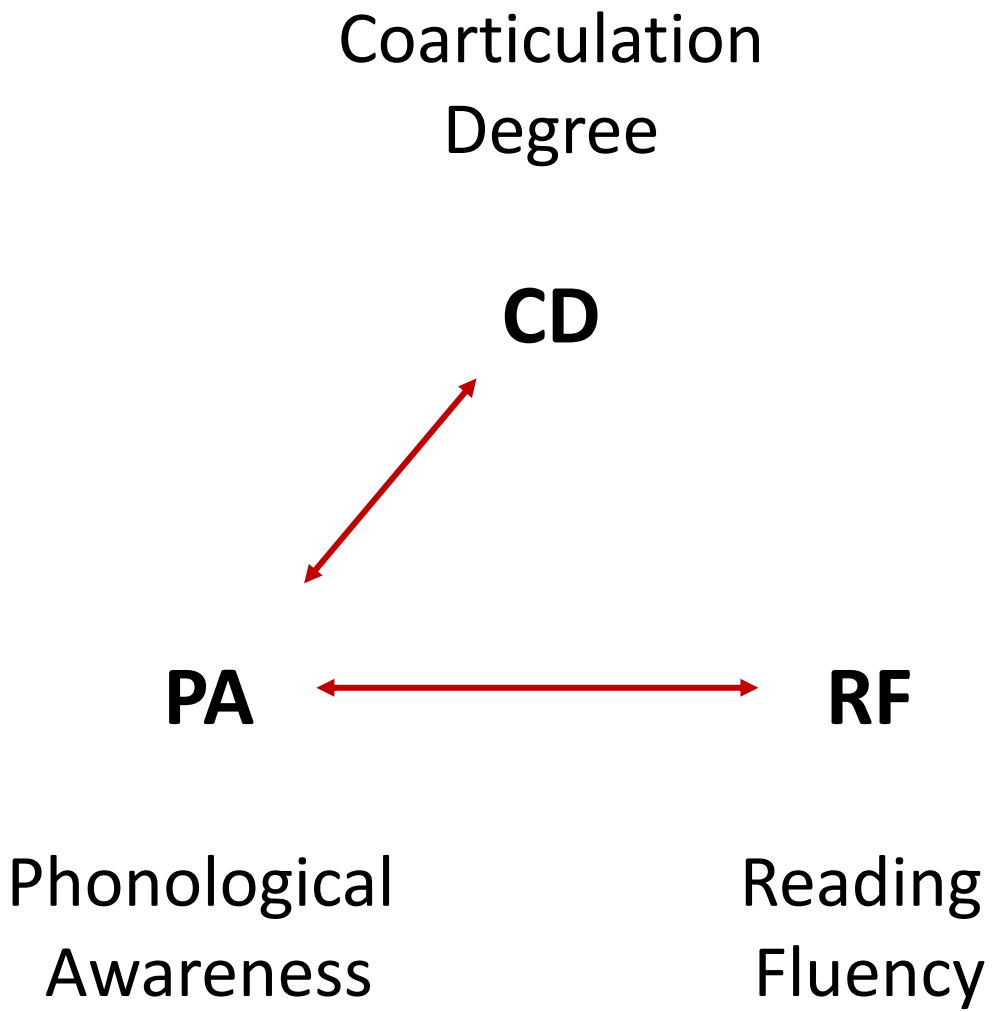
CD

PA ⟷ **RF**

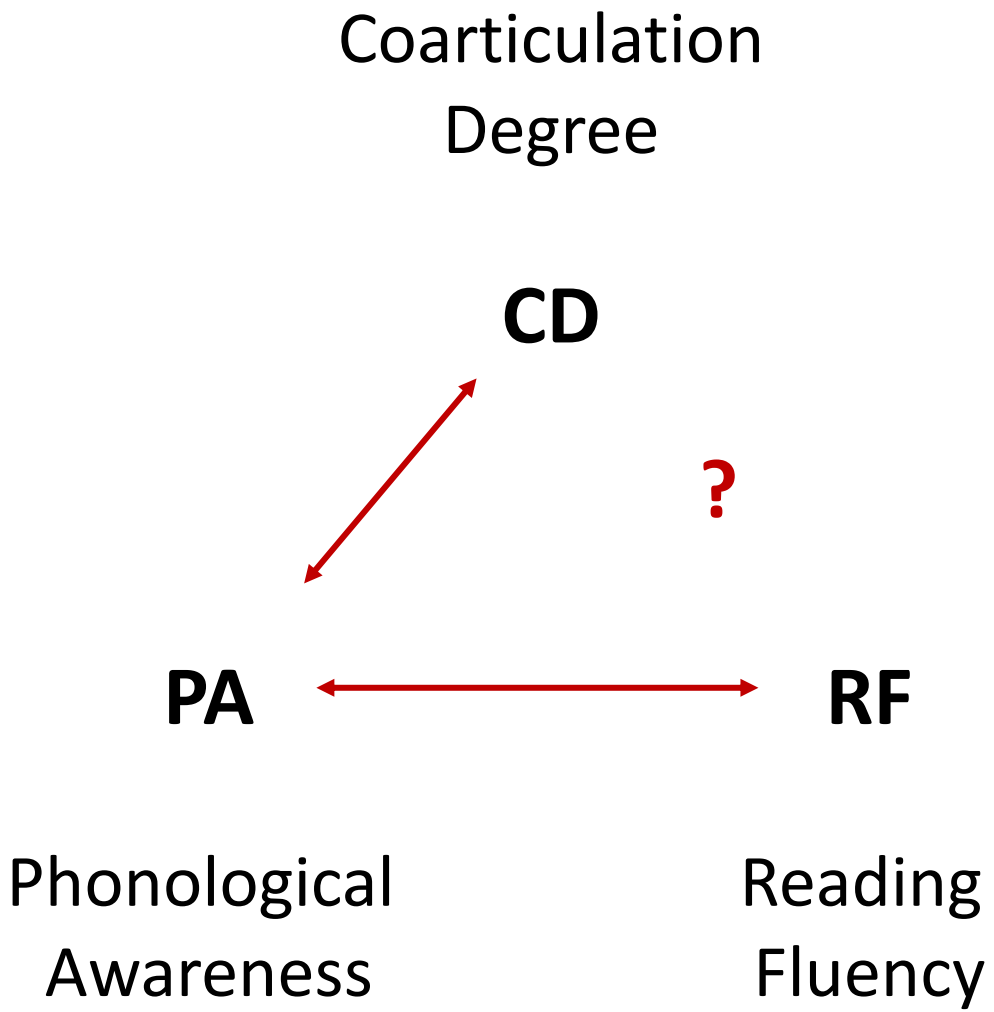
Phonological Awareness

Reading Fluency

Phonological awareness and coarticulation



Phonological awareness and coarticulation



Hypothesis and Prediction

- Hypothesis:

Reading fluency interacts with coarticulation degree

- Prediction:

Better readers coarticulate less

Participants

- 32 monolingual German children
- 19 girls, 13 boys
- from Brandenburg, Germany
- At end of their first year of primary school
- age-span: 6.9 – 7.4
- mean age: 7.2

Production task

b, d, g

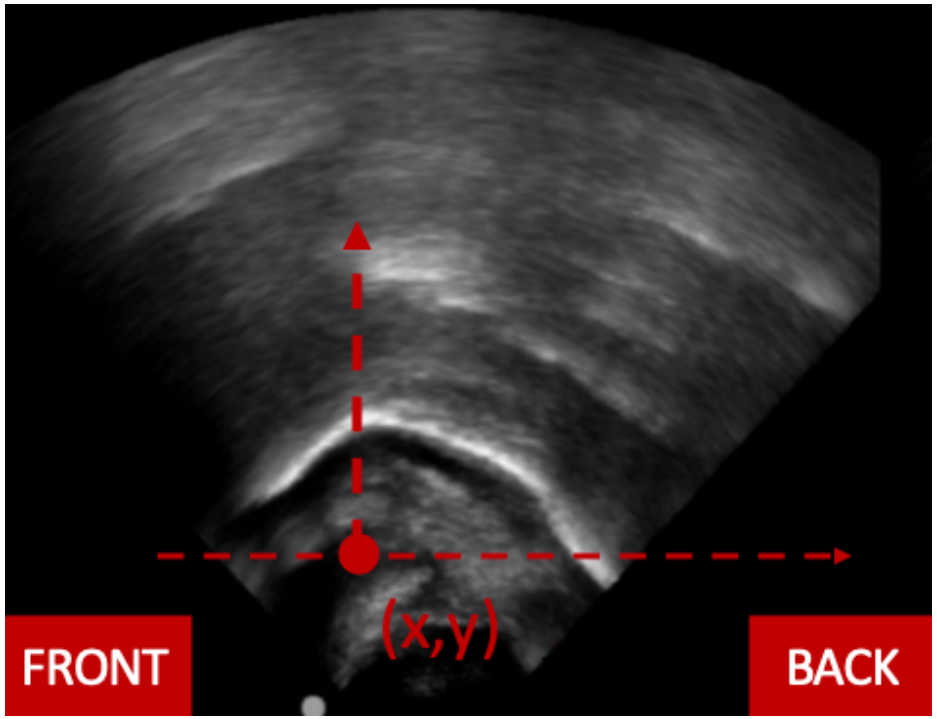
$C_1 \neq C_2$

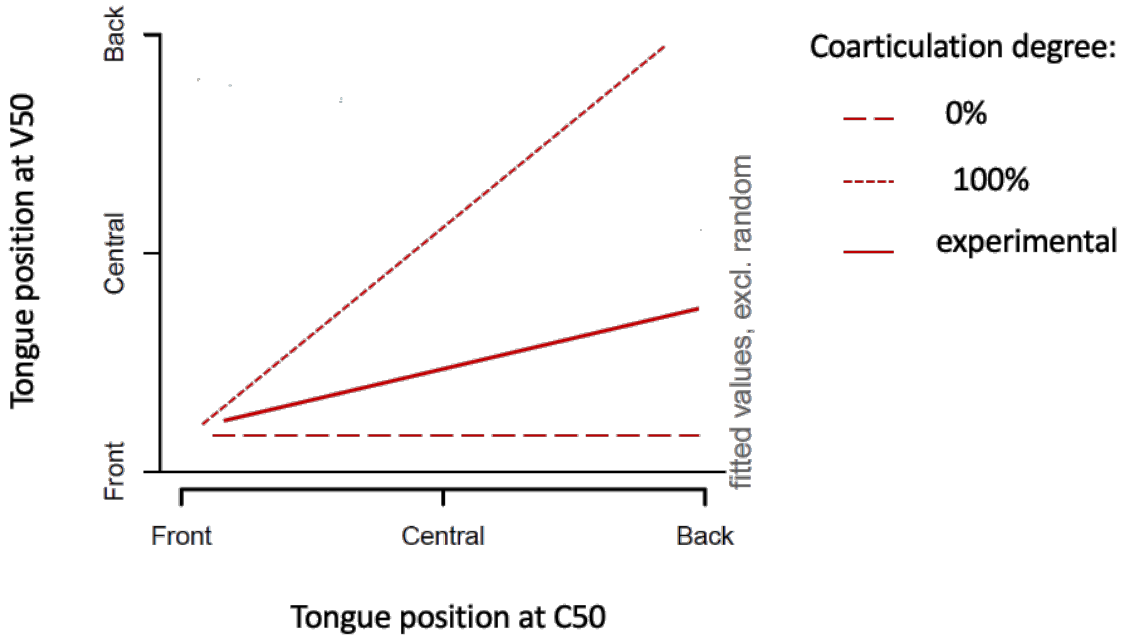
e i n ə C_1 V C_2 ə

i, y, e, o, u

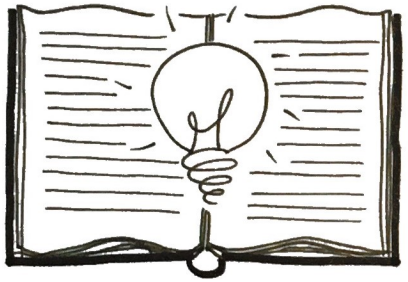
Block 1 | Block 2 | … | Block 6

Measuring coarticulation degree





Measuring reading fluency



- SLRT-I
- 30 real words
- 30 non words

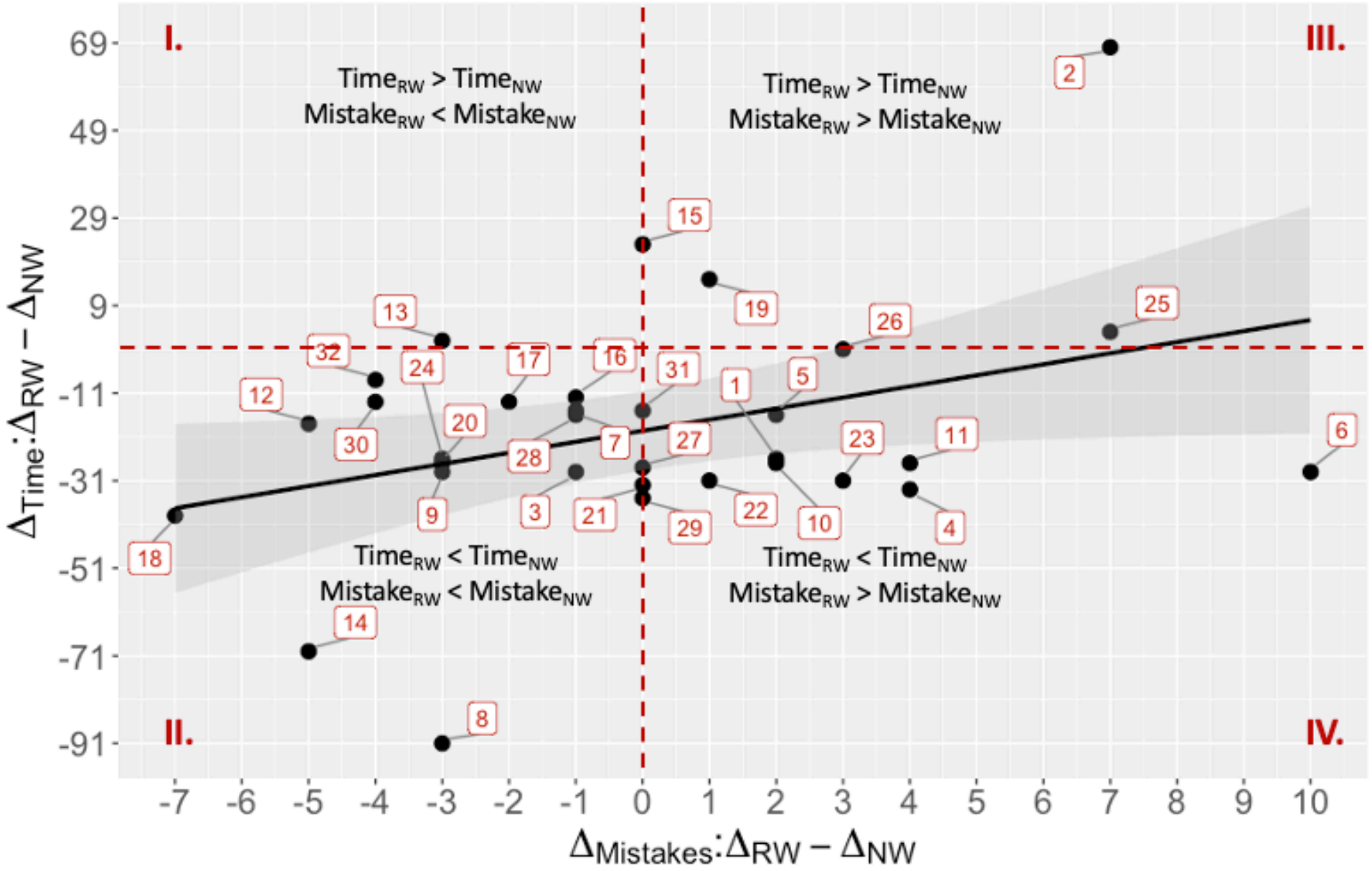
MISTAKE

- Ellision
- Addition
- Substitution
- Vowel length error

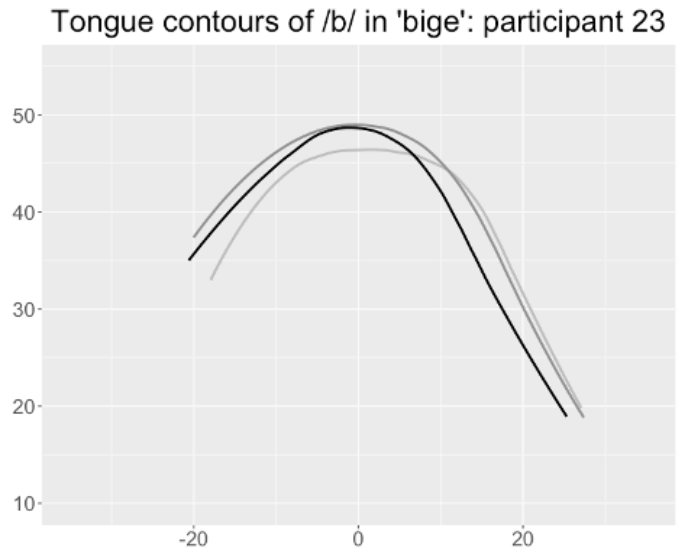
- Reading time per task

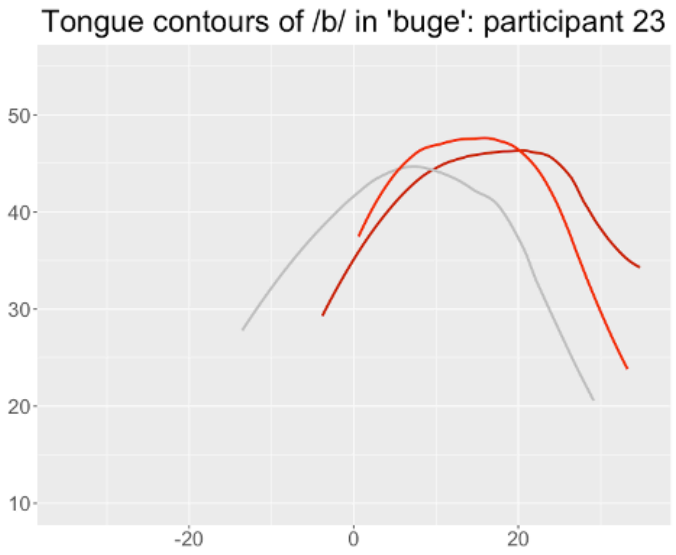
$$RF: (30- Mistake_{Task}) / Time_{Task}$$

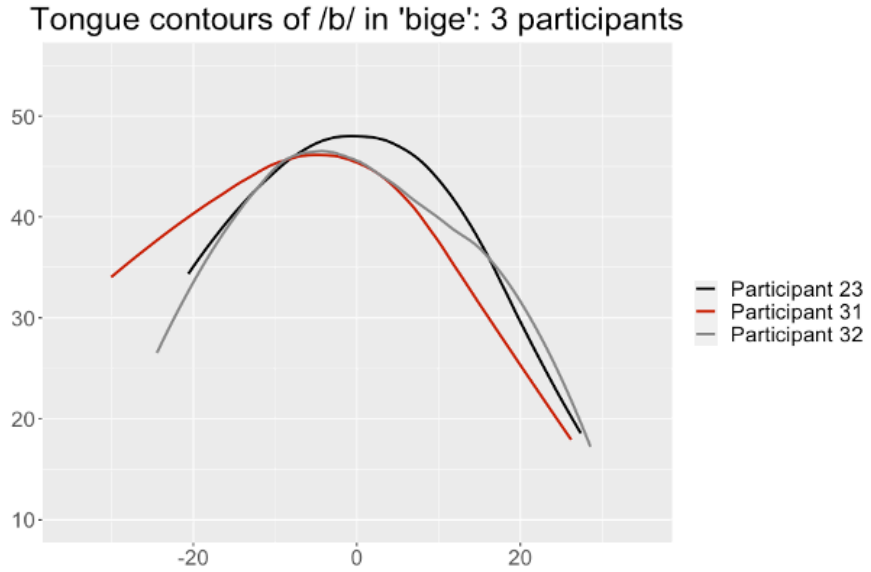
Reading fluency



Tongue contours at the midpoint of C_1







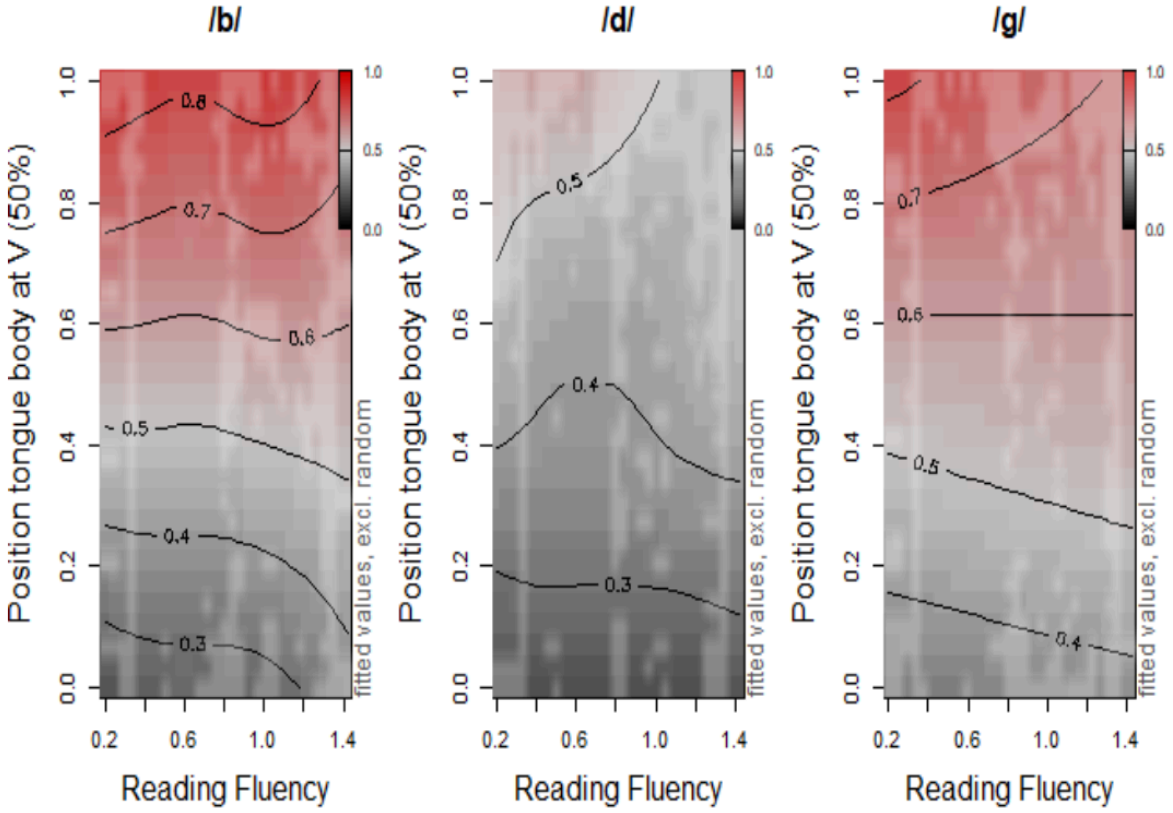
Intra-participant variability

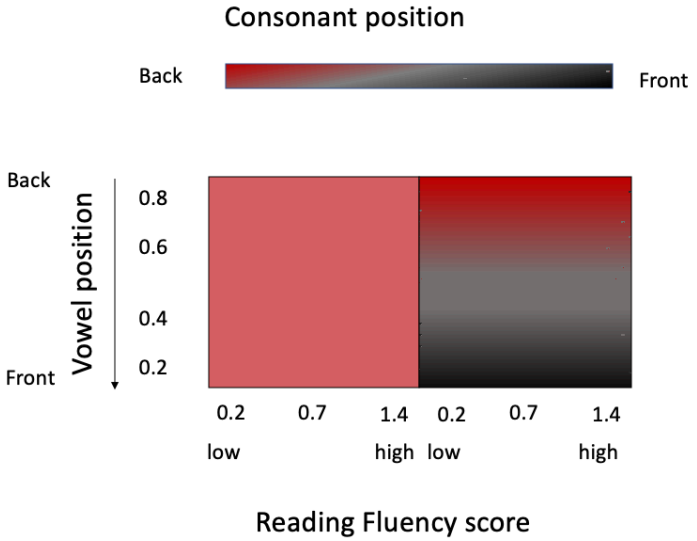
Inter-participant variability

Correlating reading fluency and coarticulation degree

posterior V:
e.g. /u/

anterior V:
e.g. /i/





Summary

- Children with similar amounts of reading instruction exhibit variable levels of reading proficiency
- Coarticulation degree varies with consonant context

- Reading proficiency interacts with coarticulation degree
- More skilled readers tend to differentiate segments more

Future research avenues

- Include other potential language factors associated with reading proficiency
- Need for more fine-grained reading proficiency tests
- Look at different languages with varying levels of transparency/different writing systems
- Look at illiterate populations