

# How Do Preschool Staff Communicate with Children with English as an Additional Language?

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# Motivation of Study

- Society becomes super-diverse, more preschool children do not speak the dominant language of society as their first language

- English as an additional language (EAL)

(Vertovec, 2007)

- Preschool may be the only environment in which EAL children use English
- Challenge for preschool staff: How to communicate with EAL children and support them in learning English?

# Linguistic Input at Preschool

- Lexical diversity → Native English vocabulary growth
- Input quantity & Syntactic simplicity → EAL vocabulary growth

(Bowers & Vasilyeva, 2011)

- Limitation: Only audio-recorded one 1.5-hour session per preschool staff

# Gestural Input

- 2- to 4-year-olds rely more heavily on pointing than verbal information when finding the referent of a word

(Grassmann & Tomasello, 2010)

- Parent gesture use at 14 months → Child gesture use at 14 months → Child vocabulary score at 42 months

(Rowe, Ozcaliskan & Goldin-Meadow, 2008)

# Aims

- ① Do preschool staff tailor their interaction to children with different linguistic backgrounds and language proficiency levels?
  - ② Do preschool staff use age-appropriate scaffolding when they communicate with children?
- Linguistic input
    - utterance length
    - lexical diversity
    - syntactic complexity
    - use of different parts of speech
    - use of different types of questions

# Aims

- ① Do preschool staff tailor their interaction to children with different linguistic backgrounds and language proficiency levels?
  - ② Do preschool staff use age-appropriate scaffolding when they communicate with children?
- Gestural input
    - pointing
    - signing

# Participants

- Preschool staff
  - Qualified = 6
  - Supply = 2
- Children

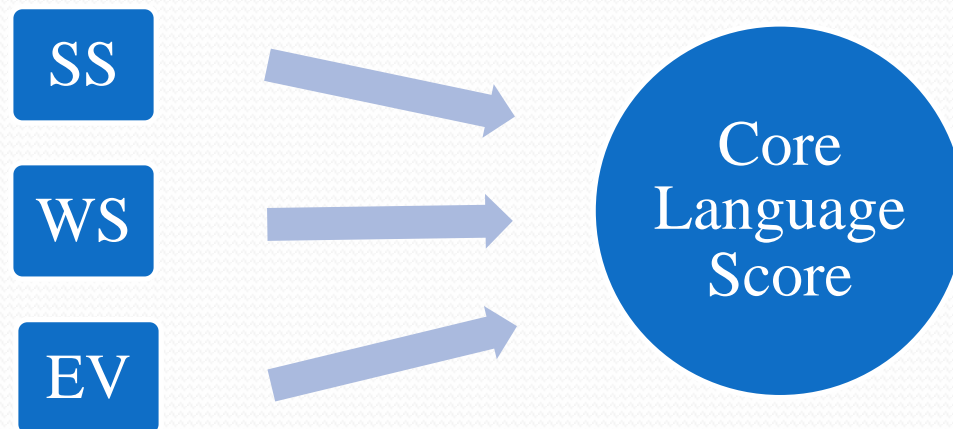
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	Native English	EAL
Number	13	10
Male	9	7
Female	4	3
Average age	4;01;02	3;11;24
Range of age	3;08;10 – 4;04;06	3;09;07 – 4;03;11
Average Exposure to English	4;01;02	2;00;00

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# Language Proficiency Measure

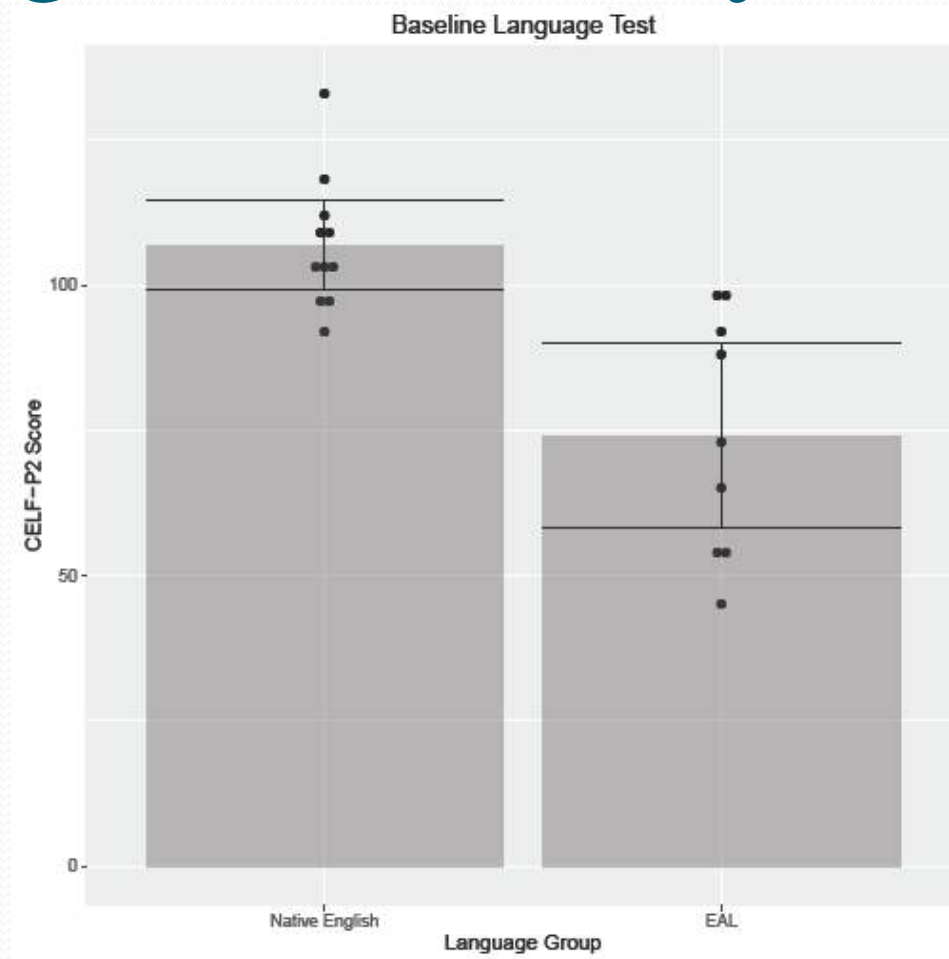
- Clinical Evaluation of Language Fundamentals – Preschool-2 (CELF-P2)
  - Sentence Structure (SS): Picture-pointing
  - Word Structure (WS): Sentence-completion
  - Expressive Vocabulary (EV): Picture-naming



(Wiig, Secord & Samuel, 2004)



# Language Proficiency Measure



- $t(11.96) = 4.25, p = .001$

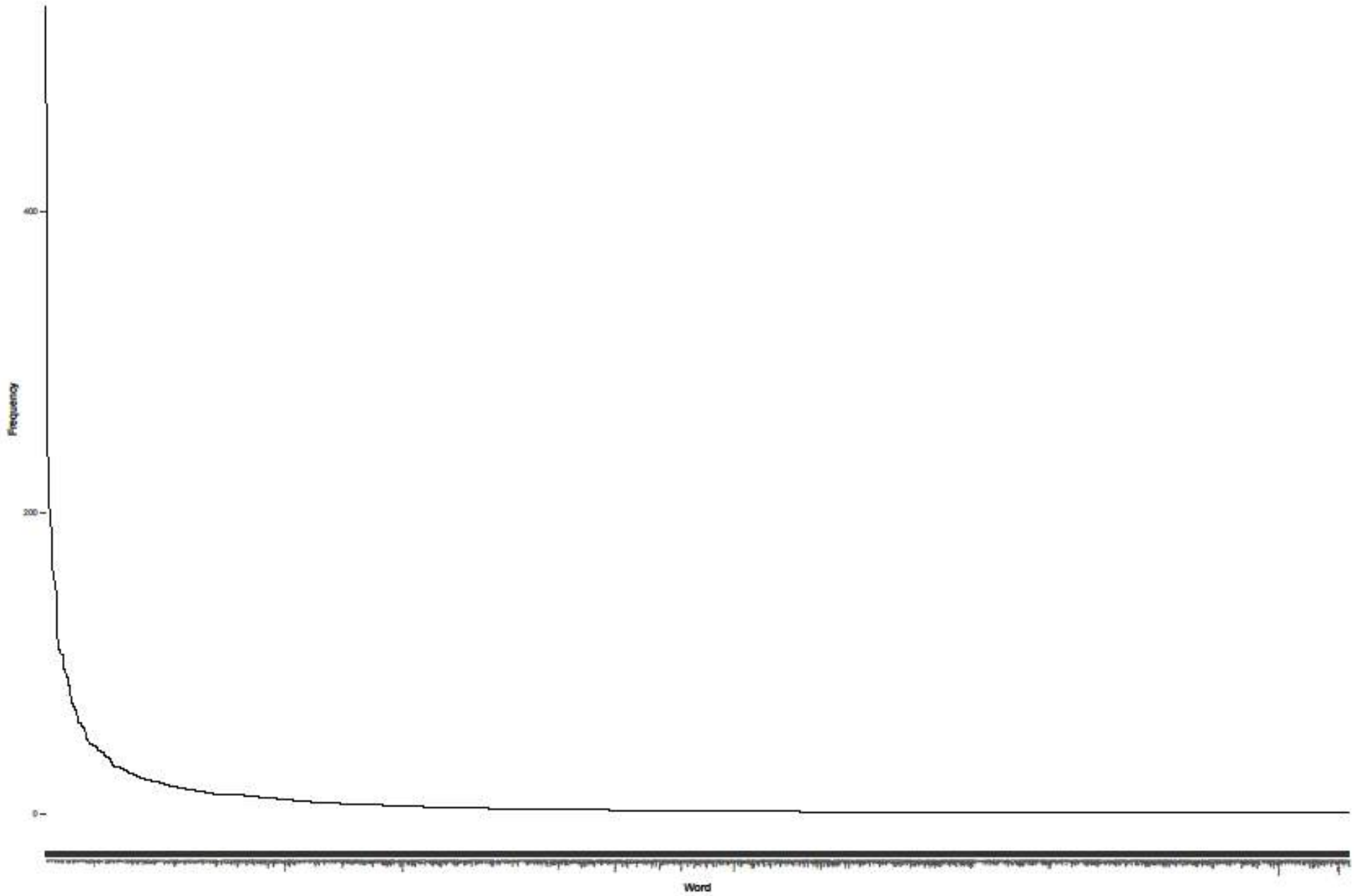
# Study Set-Up

- 3 cameras to video-record a preschool classroom 1 hour a week for 4.5 months
- Staff asked to carry around a portable audio recorder
- Children and staff engaged in usual routines / activities

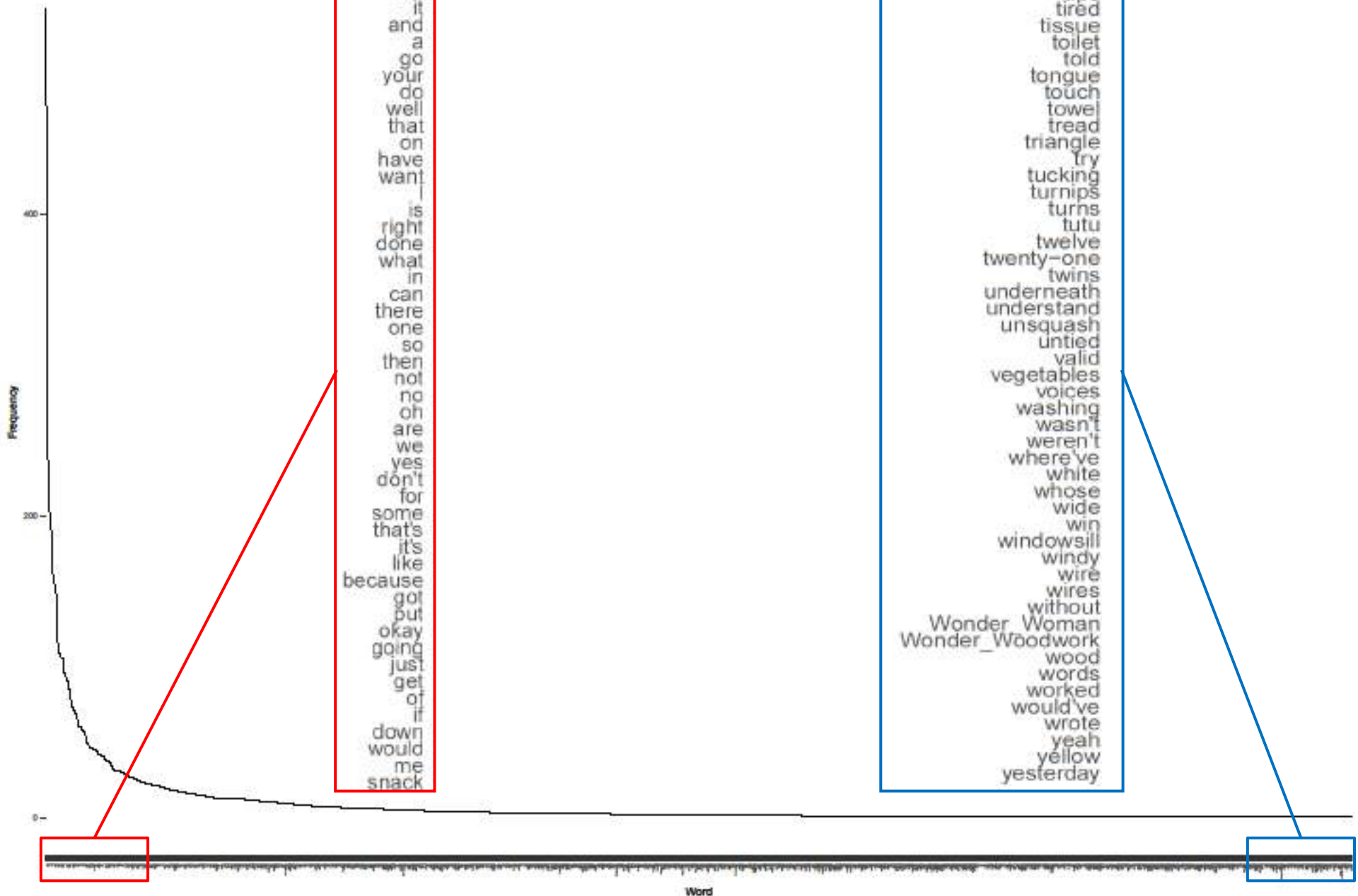
# Transcription

- Using the Codes for Human Analysis of Transcripts (CHAT) transcription system in Child Language Analysis (CLAN) program  
(MacWhinney, 2000)
- Gestures annotated
- Intended recipients of utterances and gestures annotated
- Unique participant code used instead of real names

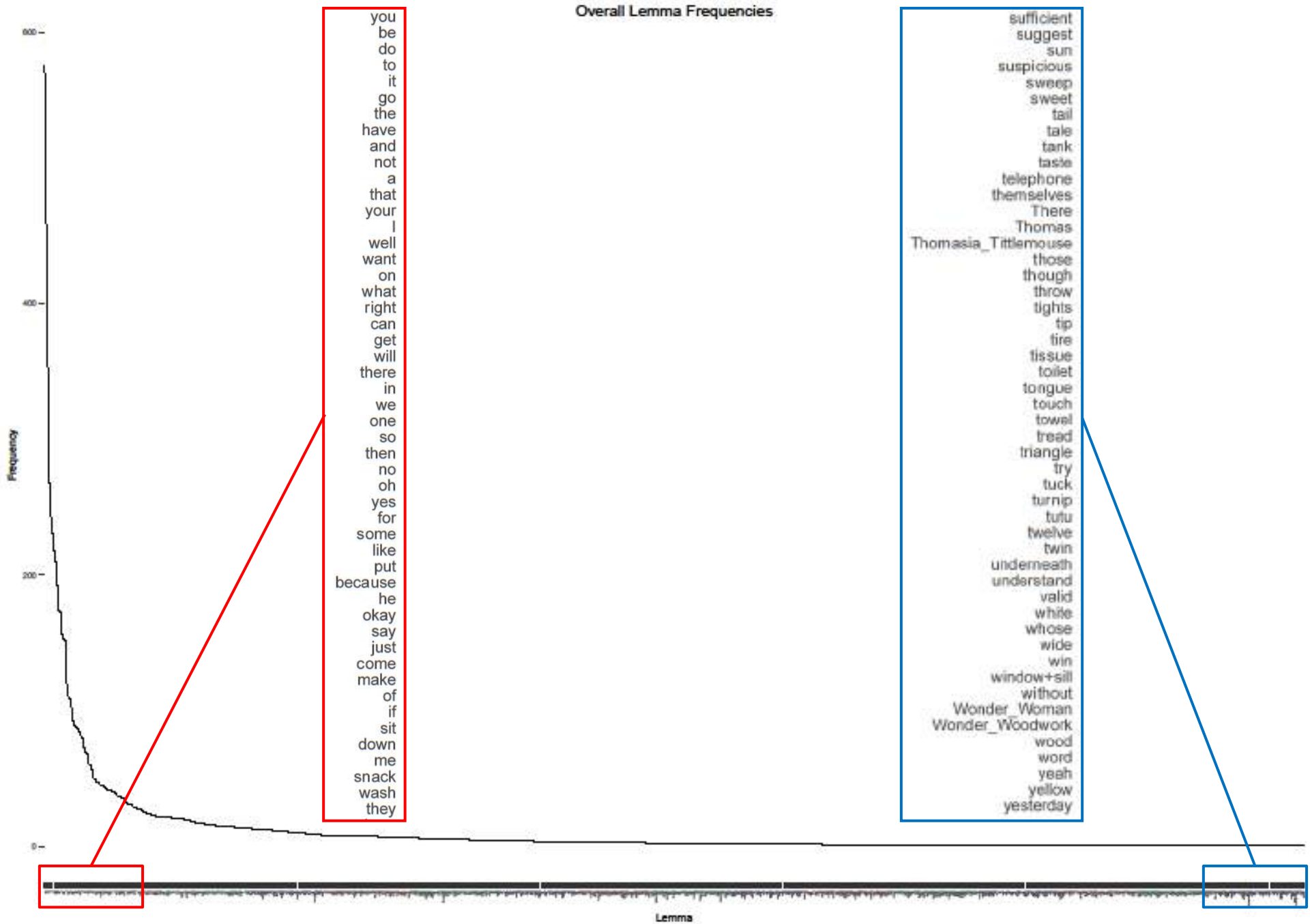
# Overall Word Frequencies



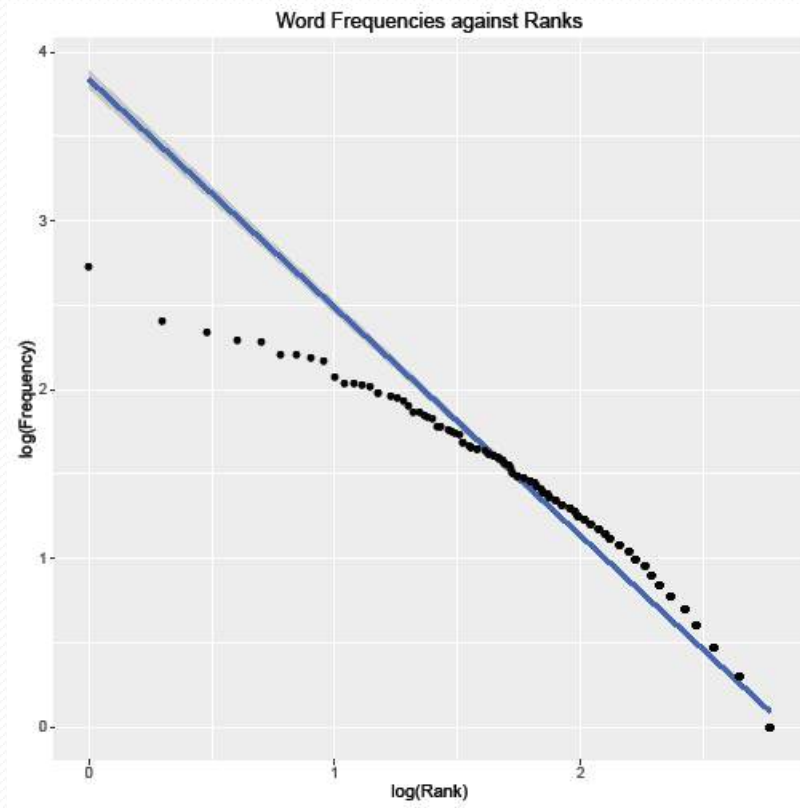
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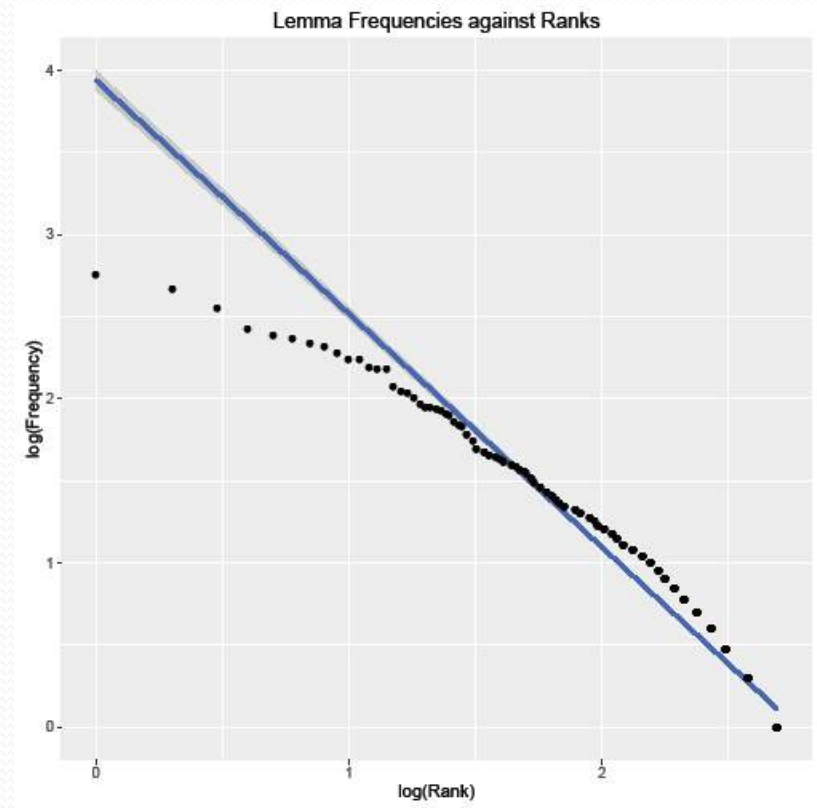
# Overall Lemma Frequencies



# Zipf's Distribution



- $r(1017) = -.97, p < .001$



- $r(793) = -.97, p < .001$

# General Linguistic Environment

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Session	No. of Utterances	No. of Words	MLU	$SD_{MLU}$
Session 1	733	3805	5.19	3.28
Session 2	832	4864	5.85	4.81

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Session	Word		Lemma	
	No. of Types	No. of Tokens	No. of Types	No. of Tokens
Session 1	505	3867	398	4104
Session 2	841	5027	671	5224

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# General Linguistic Environment

- Session 1

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Language Group	No. of Utterances	No. of Words	MLU
Native English	40.33	225.92	5.63
EAL	35.56	179.67	4.84

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Language Group	No. of Types (Lemma)	No. of Tokens (Lemma)	Type-Token Ratio (Lemma)
Native English	88.50	241.17	0.391
EAL	68.22	195.33	0.516

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# General Linguistic Environment

- Session 2

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Language Group	No. of Utterances	No. of Words	MLU
Native English	71.81	572.73	7.71
EAL	40.13	158.25	4.44

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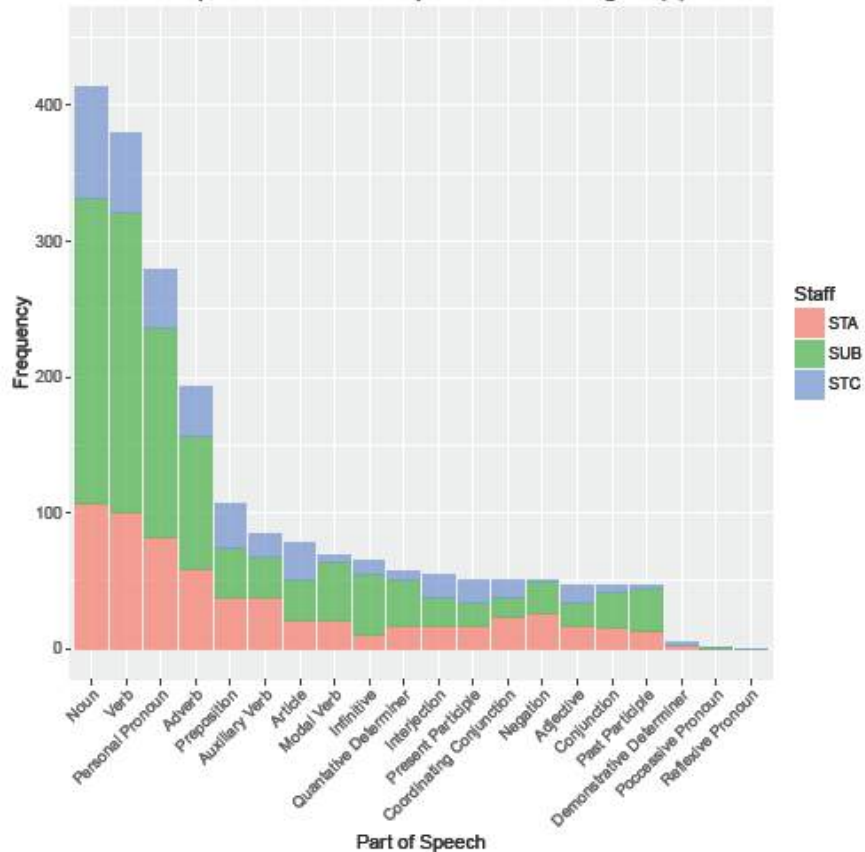
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Language Group	No. of Types (Lemma)	No. of Tokens (Lemma)	Type-Token Ratio (Lemma)
Native English	221.36	595.73	0.406
EAL	88.38	177.88	0.635

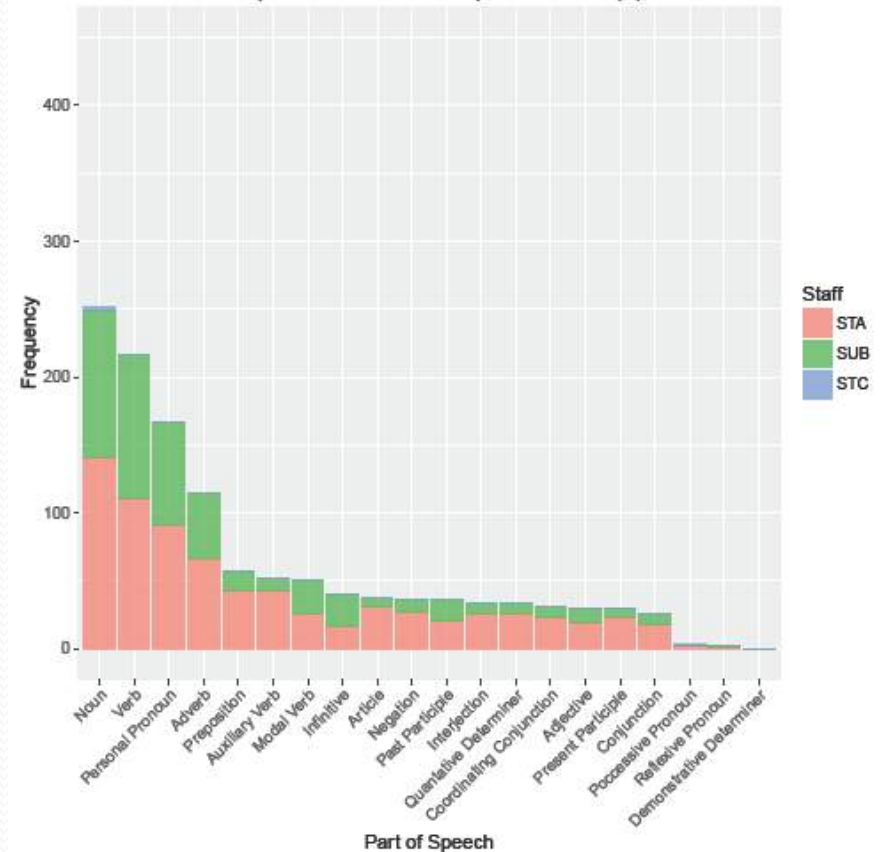
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# Parts of Speech

Frequencies of Parts of Speech – Native English (1)

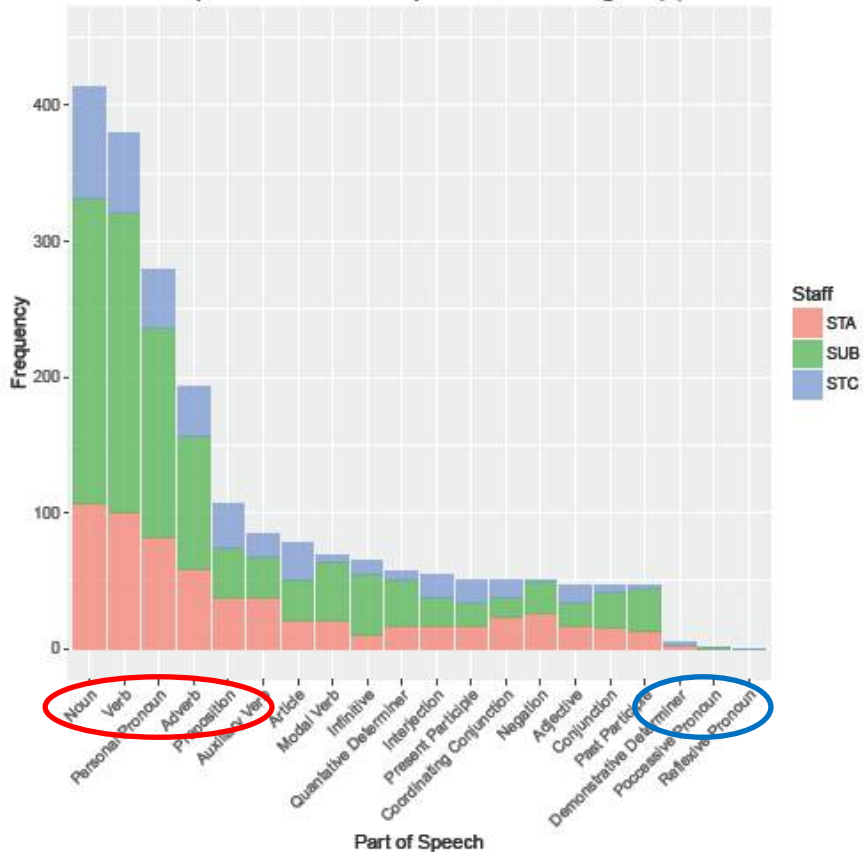


Frequencies of Parts of Speech – EAL (1)

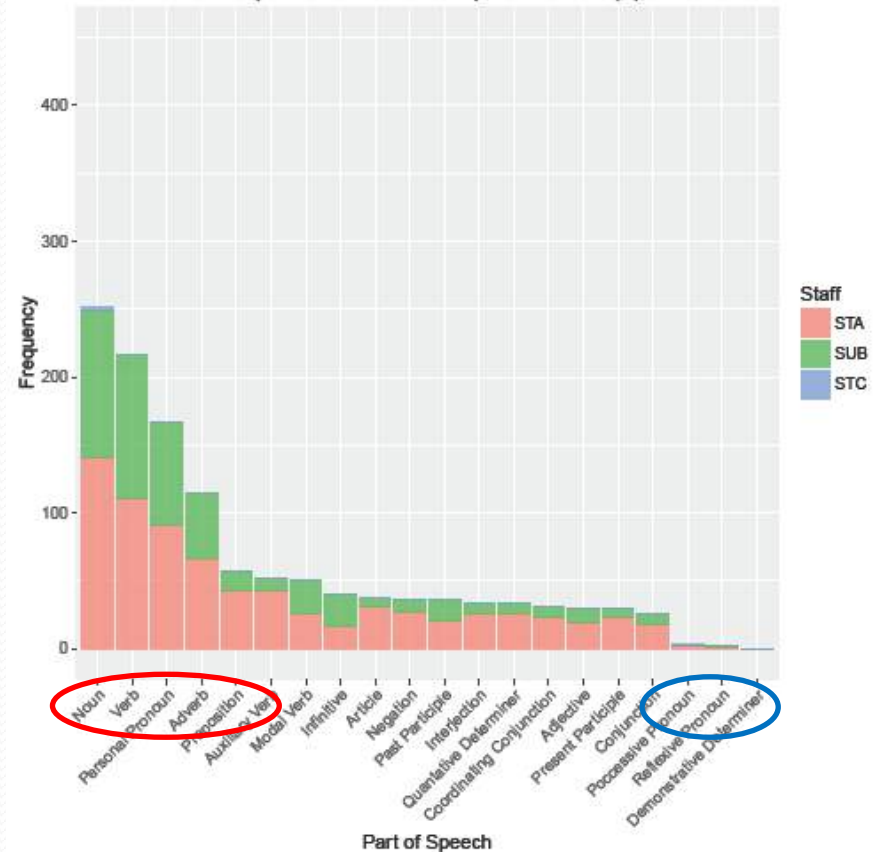


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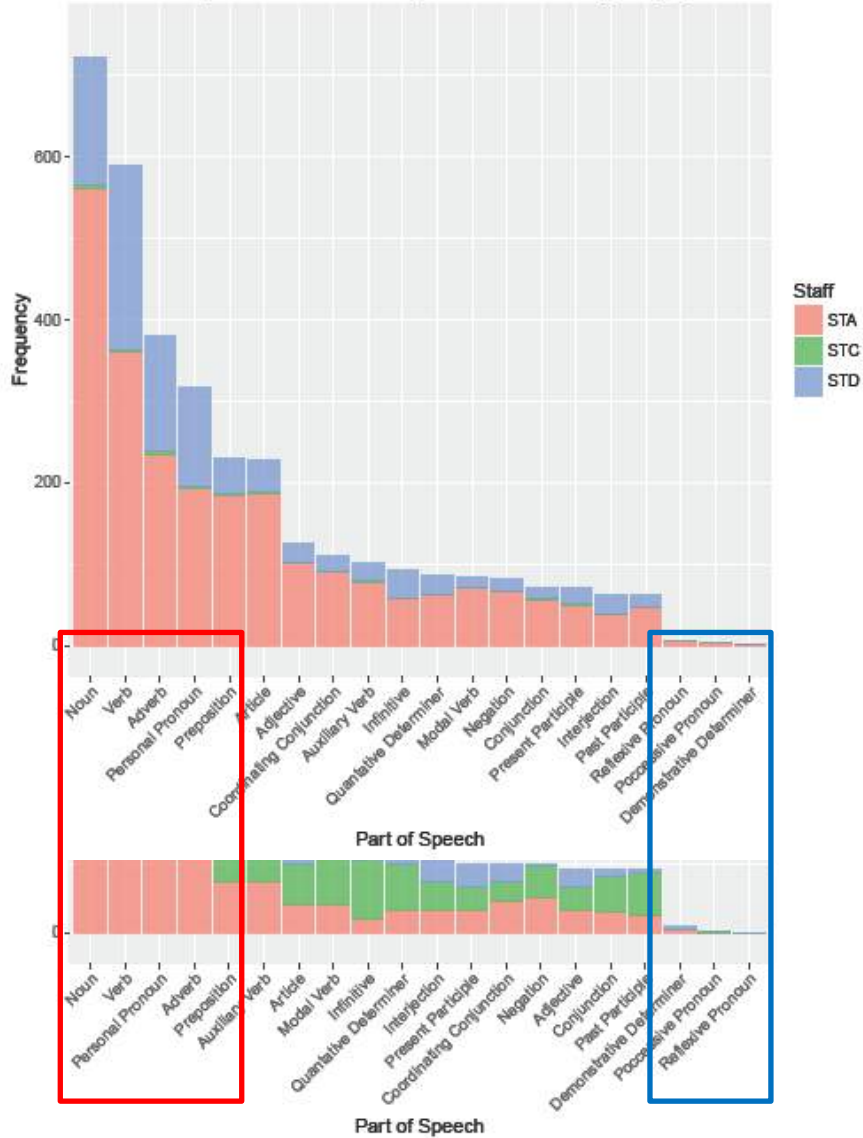
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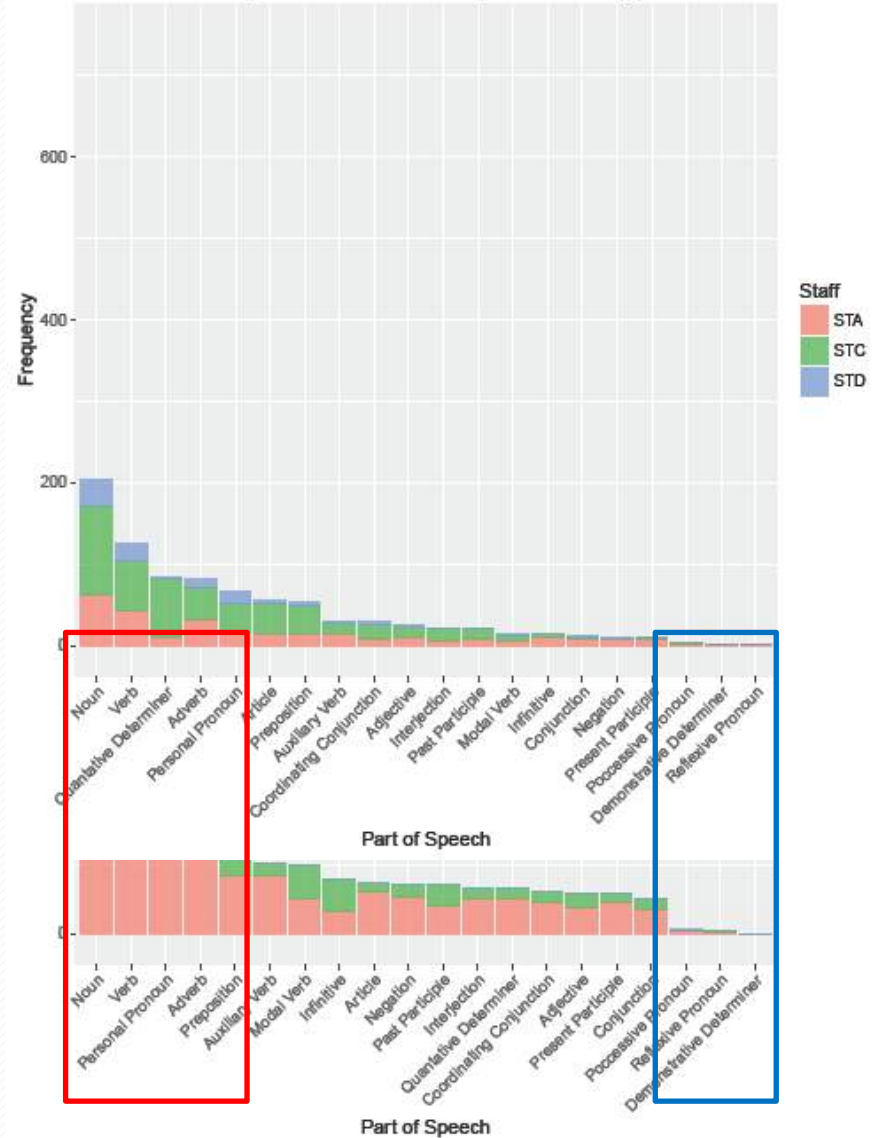
Frequencies of Parts of Speech – EAL (1)



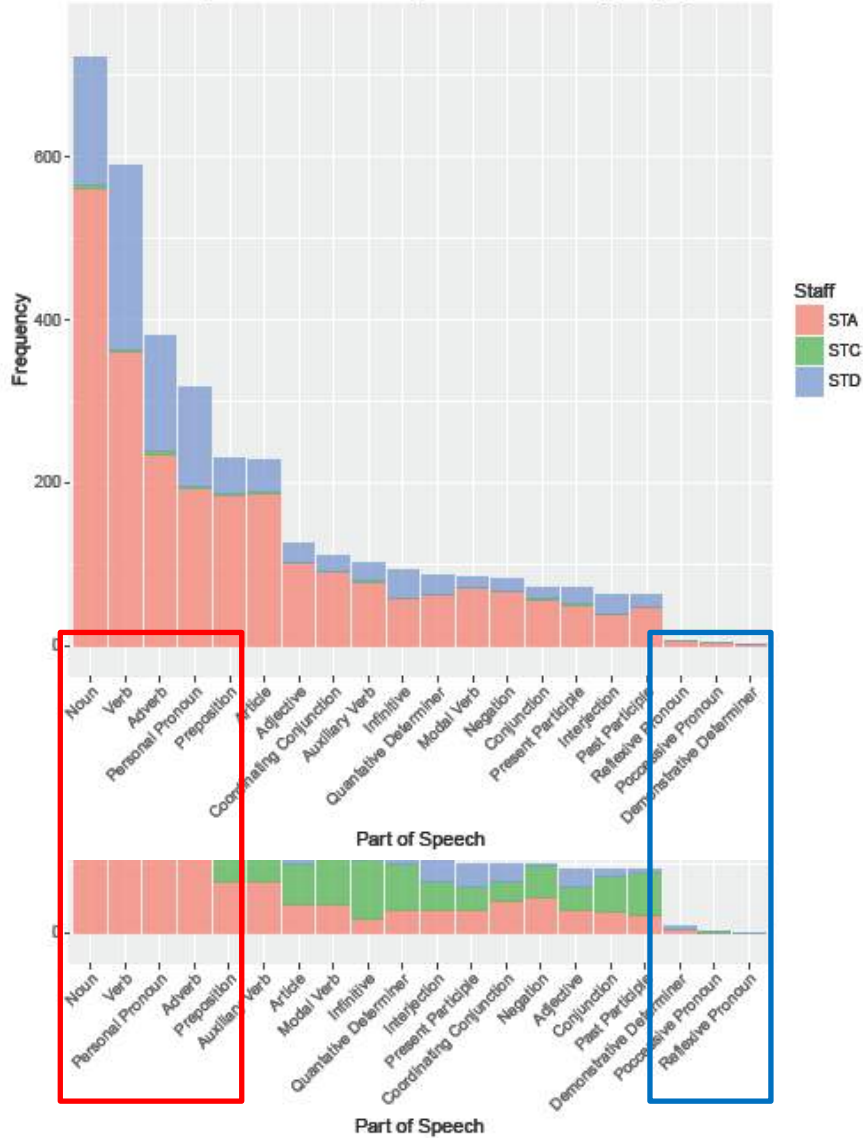
Frequencies of Parts of Speech – Native English (2)



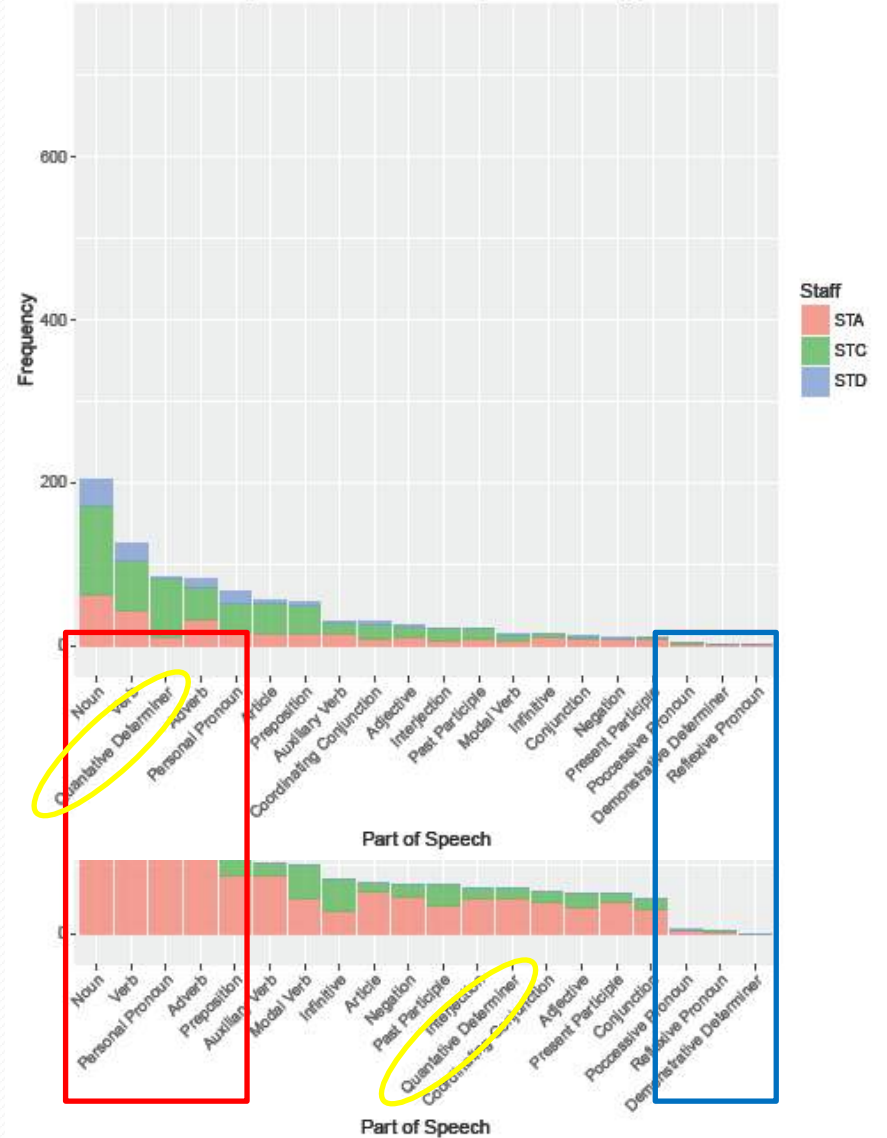
Frequencies of Parts of Speech – EAL (2)



Frequencies of Parts of Speech – Native English (2)



Frequencies of Parts of Speech – EAL (2)



# Correlations with CELF-P2 Scores

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	Session 1	Session 2
No. of Words	$r(18) = .37, p = .110$	$r(15) = .38, p = .132$
No. of Utterances	$r(18) = .44, p = .050$	$r(15) = -.06, p = .821$
Mean Length of Utterances	$r(17) = .49, p = .034$	$r(15) = .60, p = .011$
No. of Types (Lemma)	$r(18) = .60, p = .005$	$r(15) = .43, p = .083$
No. of Tokens (Lemma)	$r(18) = .44, p = .055$	$r(15) = .45, p = .070$
Type-Token Ratio (Lemma)	$r(18) = -.73, p < .001$	$r(15) = -.17, p = .501$

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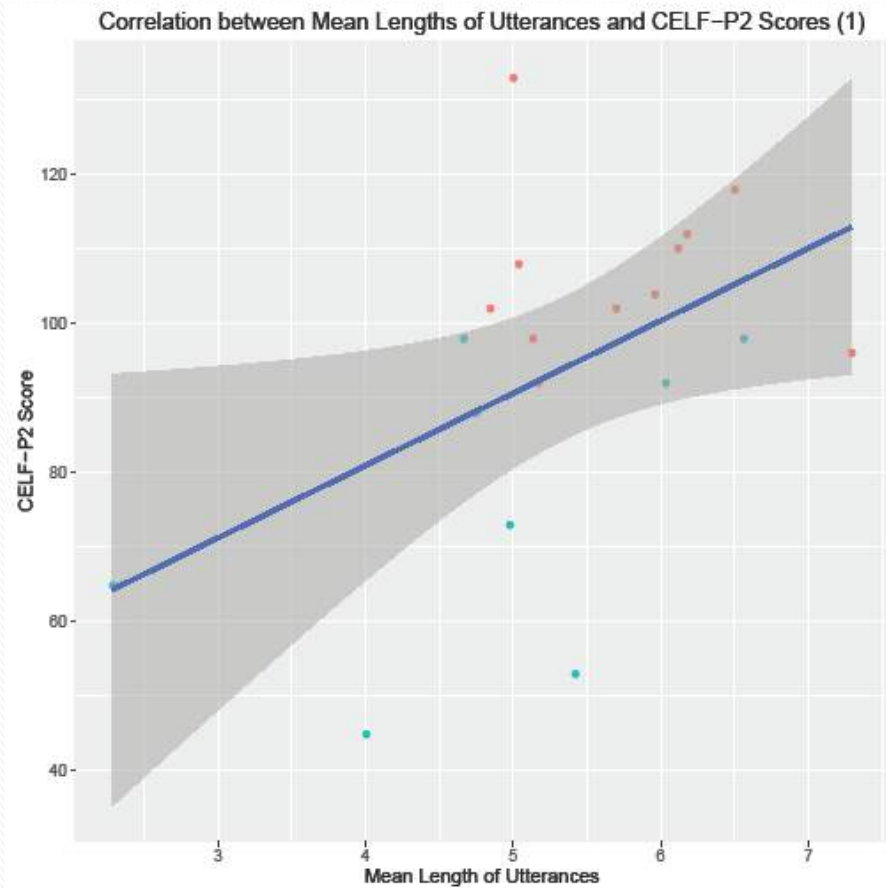
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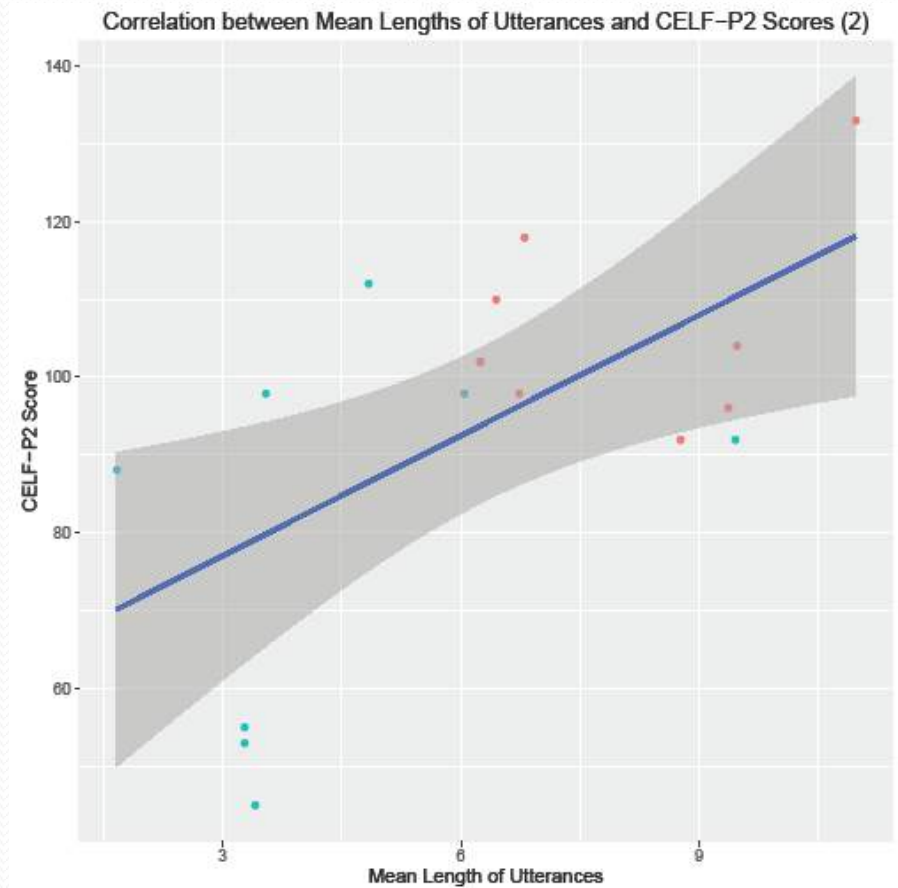
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# Mean Length of Utterances



- $r(17) = .49, p = .034$

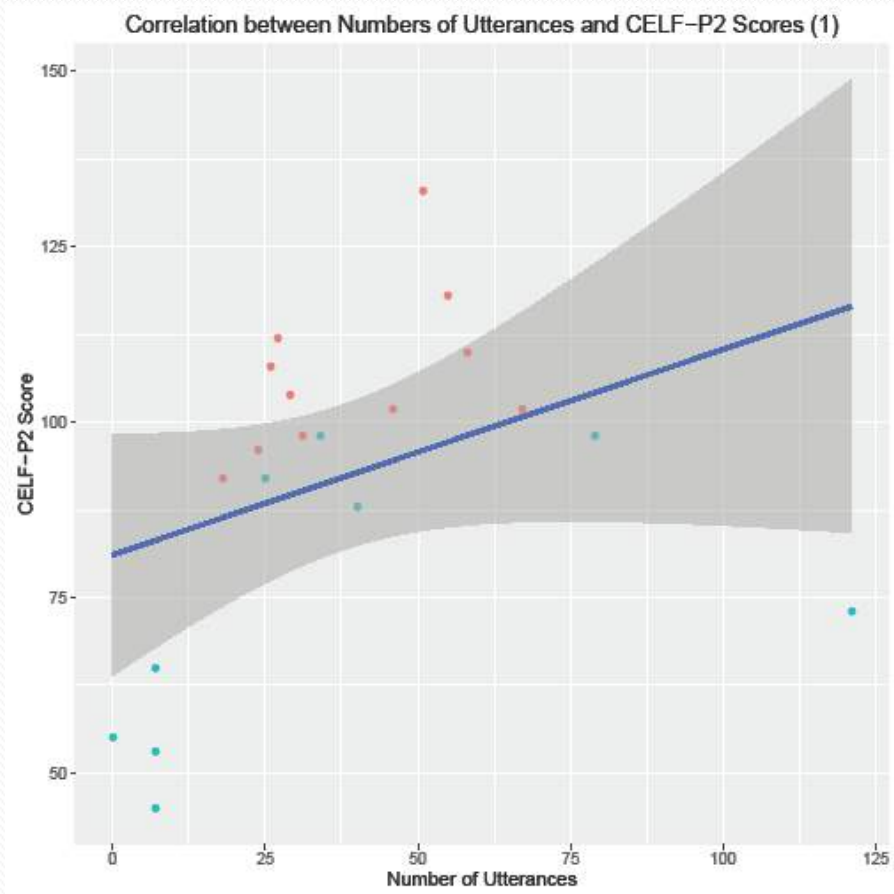


- $r(15) = .60, p = .011$

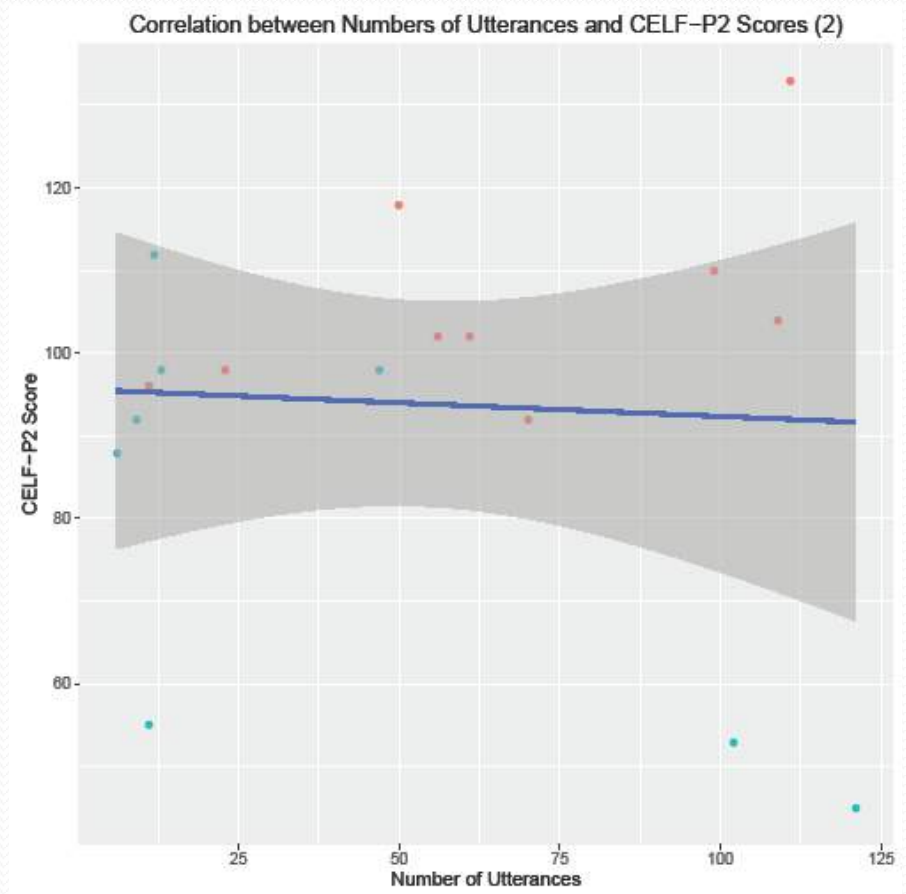
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# Number of Utterances



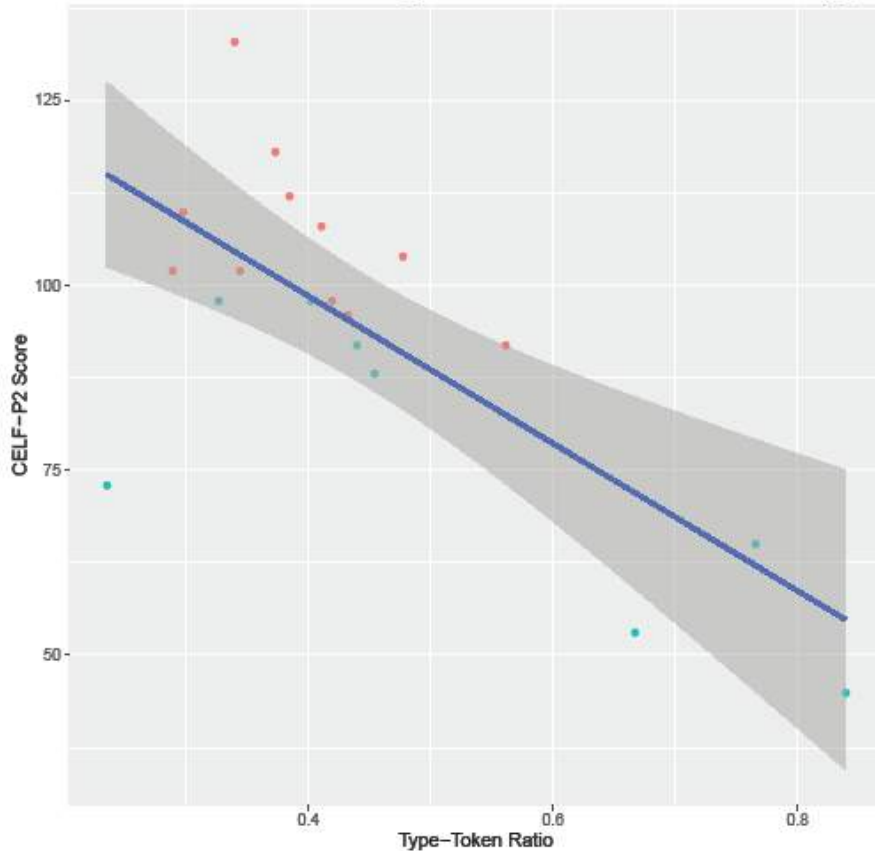
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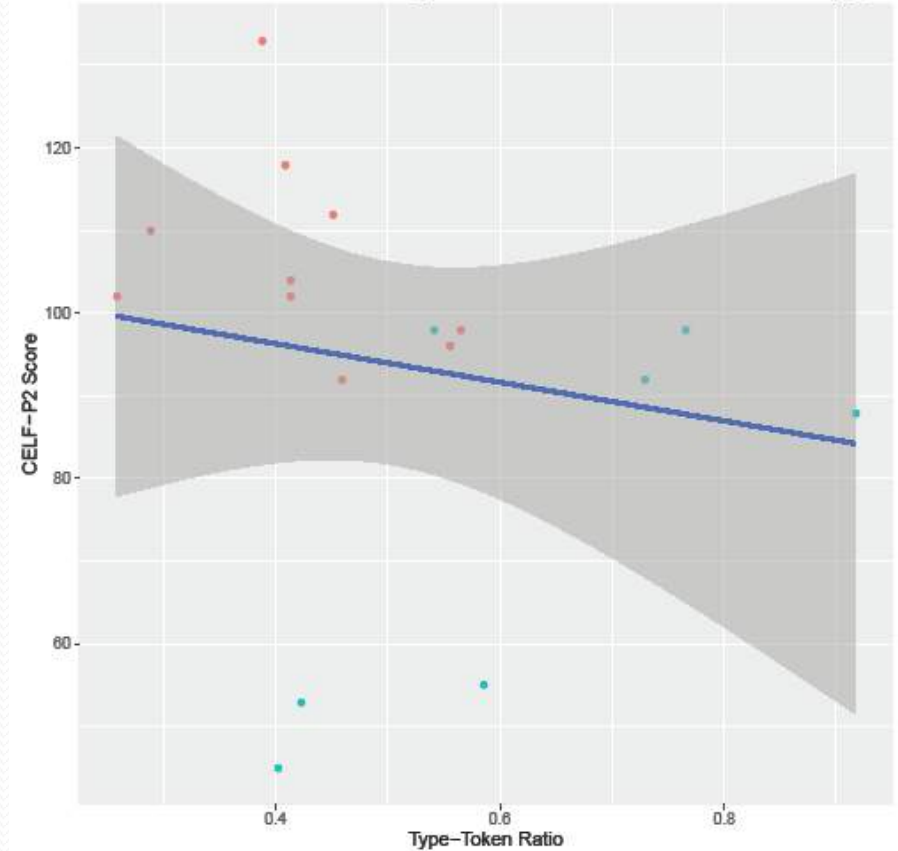
# Type-Token Ratio (Lemma)

Correlation between Lemma Type-Token Ratios and CELF-P2 Scores (1)



- $r(18) = -.73, p < .001$

Correlation between Lemma Type-Token Ratios and CELF-P2 Scores (2)



- $r(15) = -.17, p = .501$

# Next Steps

- More transcription
- Outcome language measure
- Compare use of question type and gestures in the interaction directed at each language group
- Compare word frequencies with other corpora
- Investigate age-appropriate scaffolding

# Limitations

- Difficult to transcribe children's utterances
- Input from peers may also play a role

(Palermo et al., 2014)

- Children are capable at learning words through overheard

(Akhtar, 2005; Akhtar, Jipson & Callanan, 2001)



# Acknowledgements

- Supervisors: Padraic Monaghan & Marije Michel
- Children, parents & staff of the preschool
- The Leverhulme Trust
- Lancaster University Department of Psychology

Psychology

Lancaster  
University



The Leverhulme Trust

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