

Evaluation of a Standardized Parent Education Program to Promote Early Child Language Development



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Background

- The language environment in a child's first three years of life impact their overall language development, which is foundational for literacy skills and overall academic success.
- Parents benefit from community and educational resources that specifically target language development to create a language rich environment and improve overall language development.
- The current study evaluates the effect of LENA StartTM, a parent education program that provides information on language development and quantitative feedback.

Research Questions:

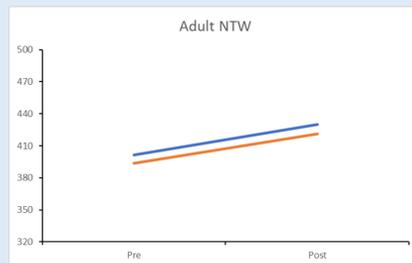
- Does the language produced by parents and children who participated in LENA StartTM differ from those enrolled in an alternative program, based on SALT measures?
- Are the SALT measures consistent with the LENA recording outcomes?

Participants

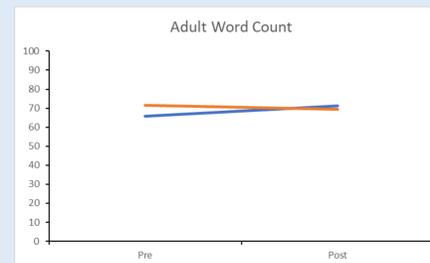
- Participants were ≤ 2 years; 11 months at the start of the program and were recruited from 4 partnering Midwest school districts.
- Participant groups included:
 - LENA StartTM Group ($n = 19$ parent-child dyads)
 - Child mean age = 16.5 months
 - Parent mean age = 32 years
 - Comparison Group ($n = 15$ parent-child dyads)
 - Child mean age = 23.6 months
 - Parent mean age = 33 years

Measures

- SALT analysis of Pre- and - post video transcripts compared:
 - Parent Measures: mean length of utterance (MLU), number of total words (NTW), and mean turn length in utterances (Mean TLU).
 - Child Measures: Number of total words (NTW).
- LENA measures optioned from Pre and Post recordings.
 - Adult word count (AWC) – total adult words spoken to the key child
 - Child vocalizations (CV) – total child vocalizations and verbalizations.
 - Conversational turns (CT) – total time a child vocalizes within 5 seconds following an adult utterance or vice versa.



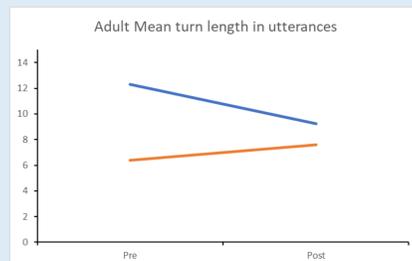
LENA StartTM group increased by 28.6 words ($d = 0.23, p = 0.21$). Comparison group increased by 27.5 words ($d = 0.23, p = 0.25$)



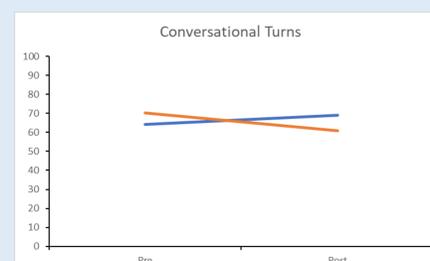
LENA StartTM group increased by 8.3 percentiles ($d = 0.27, p = 0.28$). Comparison group decreased by -3.8 percentiles ($d = -0.12, p = 0.68$)



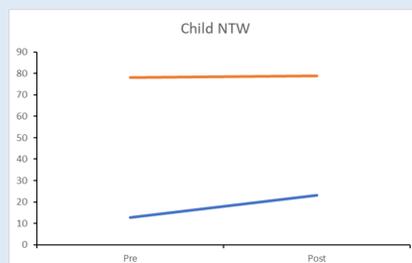
LENA StartTM group increased by 0.26 ($d = -0.51, p = 0.08$). Comparison group increased by 0.19 ($d = -0.22, p = 0.24$)



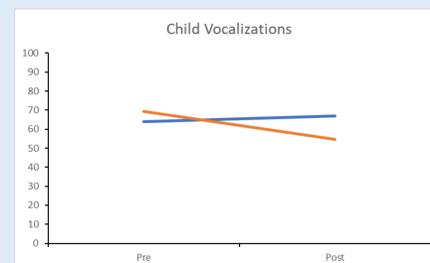
LENA StartTM group decreased by -3.07 ($d = -0.32, p = 0.30$). Comparison group increased by 1.22 ($d = -0.13, p = 0.51$)



LENA StartTM group increased by 6.7 percentiles ($d = 0.24, p = 0.41$). Comparison group decreased by -6.31 percentiles ($d = -0.29, p = 0.15$)



LENA StartTM group increased by 10.3 words ($d = 0.86, p = 0.11$). Comparison group increased by 0.6 words ($d = 0.01, p = 0.97$)



LENA StartTM group increased by 2.28 percentiles ($d = 0.08, p = 0.77$). Comparison group decreased by -26.43 percentiles ($d = -0.77, p = 0.06$)

Blue line = LENA StartTM; Orange line = Comparison Group

	Between Group Comparisons		
	<i>d</i>	<i>t</i>	<i>p</i>
LENA Measures			
Adult Word Count (Percentile)	0.37	1.03	0.31
Child Vocalizations (Percentile)	0.60	1.68	0.10
Conversational turns (Percentile)	0.58	1.67	0.11
SALT Measures			
Adult MLU	0.11	0.31	0.75
Adult mean turn length - utterances	-0.41	-1.27	0.22
Adult NTW	0.01	0.03	0.97
Child NTW	0.22	0.59	0.56

Results

- LENA StartTM families made greater gains on LENA based measures compared to Comparison families.
- Comparison families decreased on all LENA measures, but not SALT based measures.
- No significant within or between group differences were observed between LENA StartTM families based on SALT measures and LENA measures.

Discussion

- This study aimed to evaluate how targeting family education on adult language input and providing resources on language development can reduce disparities in early child language outcomes.
- Results indicate that there are discrepancies between SALT and LENA measures, which may have implications on future language research using LENA recordings.

Funding and acknowledgements

This work is funded by the LENA Research Foundation, the Bush Foundation, and the University of Minnesota's Grand Challenge Grant. Thanks are due to administrators, parent educators, parents, and children in Anoka/Hennepin, and Saint Paul Public Schools.