

# Mapping the Landscape of Interventions for Preventing Disparities in Early Language Learning Opportunities

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Reframing the Word Gap  
Equity-Based Approaches to Supporting Early Language Development

# Objectives

- Explain how study of the «word gap» began and why it's important
- Lay out the landscape of intervention research to prevent the «word gap»
- Share some of the key takeaways from this work
- Highlight some recent research and promising new directions
- Point to gaps in the research: What do we still need to learn?





# Origins of this field of research

- Why begin studying early language environments?



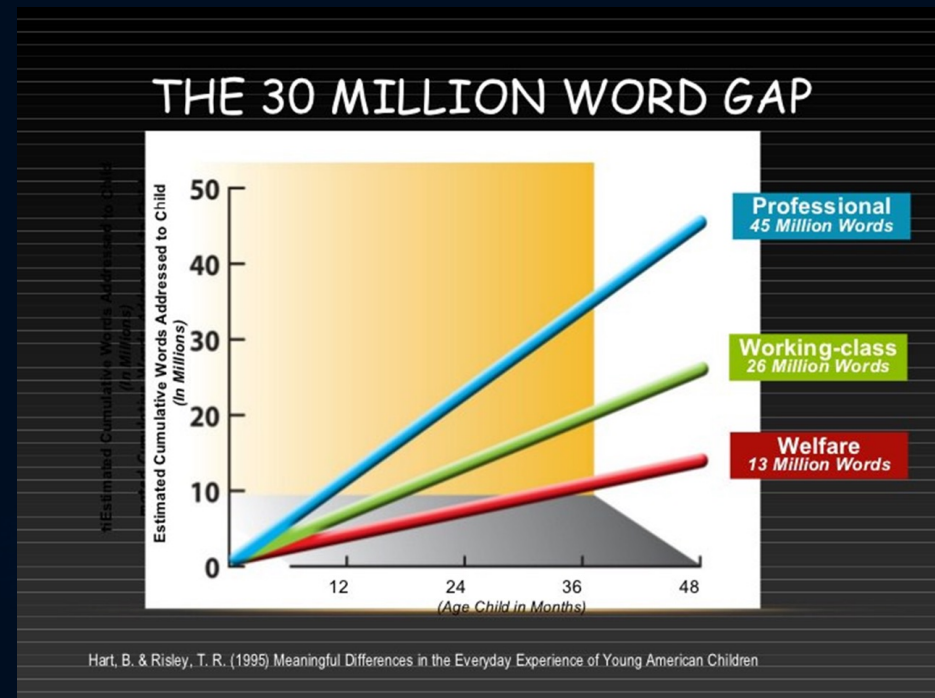
Betty Hart – Turner House Preschool  
Kansas City KS – mid 1960's

- Betty Hart & Todd Risley
- Do children's language environments play a role in shaping their early language development?
- Does environment influence their later language trajectories and later academic achievement?

“Rather than concede to the unmalleable forces of heredity, we decided that we would undertake research that would allow us to understand the disparate developmental trajectories we saw.” (Hart, 2003)

# Discovery of the Word Gap

- Word Gap—the acknowledgement of a disparity in opportunities for learning language
- A difference in the language learning environment
- The consequences of this disparity: differences in children's language development and diverging long-term educational trajectories



# Importance of the Focus on Disparity in Early Experience

- Helped researchers understand that early environments played a role in children's learning.
- Realization that early language experience could influence both short-term and long-term outcomes.
- Interventions focused on children's early environments as a time for increasing opportunities for language learning and changing life trajectories
- **Focus became identifying ways to enrich children's early language experience in the first few years of life**
  - **What should be the active ingredients of an enriched language environment?**



## Goal of language interventions

- Preventing the adverse effects of the disparity in early language environments
- Developing effective strategies to enhance language learning opportunities
- Using strategies to enhance not just the quantity but quality of interactions—more than words
- Developing programs to engage parents/caregivers in these strategies
- Scaling up these programs to make population-level differences



# The WHAT, HOW, WHEN, WHO, WHERE of EARLY LANGUAGE INTERVENTION



## The WHAT of child-level interventions

### Enriching early language environments



- Interactional strategies associated with children's language growth
- Parenting style associated with responsiveness, nurturance, warmth, predictability
- Strategies based on observations of parents/caregivers from a wide variety of backgrounds, cultures
- Interventions provided parents/caregivers with interactional "serve and return" strategies that would result in more talk, conversational turns



# HOW:

## Two Primary Types of Strategies

- **Following the child's lead and creating joint attention:**
  - Used for promoting turn-taking and increasing child's initiations
- **Recasting:**
  - Responding to a child's utterance and repeating and expanding on the utterance:  
Helps child makes connections between new words and concepts



# WHEN:

## Two Primary Contexts for these Interaction strategies

- Conversations during shared book reading
- Conversations embedded during everyday routines and play





# WHO is the focus of interventions?

- Parents/family members/caregivers
- Child care providers/early educators/early interventionists
- Community members



# WHERE do parents/caregivers learn the strategies?

- Home visiting programs
- Pediatric/public health settings
- Child care programs
- Libraries
- Laundromats/everyday places
- Through public awareness messages
- In High school



## LET'S TALK ABOUT LAUNDRY!

Turn wash time into talk time! Play "I-Spy" with your child while doing laundry. "I spy something *blue* and *soft*. What do you spy?"




#TALKINGISTEACHINGTIPS



SMALL  
TO FAIL



The background is a dark blue gradient with abstract, flowing, curved lines that create a sense of depth and movement. A subtle grid pattern is visible, particularly on the right side where it appears to curve and recede into the distance.

# KEY TAKEAWAYS FROM THE RESEARCH ON EARLY LANGUAGE INTERVENTIONS

WHAT HAVE WE LEARNED?

# ***Bridging the Word Gap Research Network carried out several systematic research syntheses examining the state of early language intervention research***



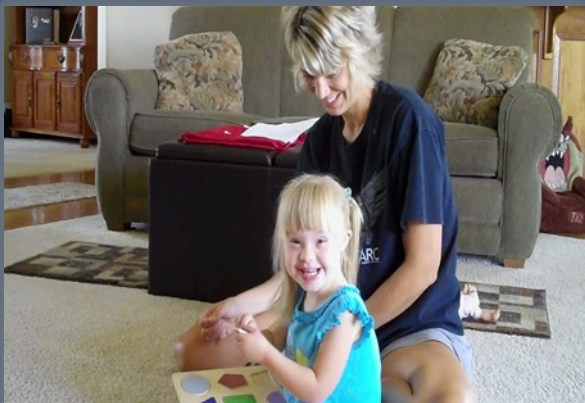
7 Workgroups from the Bridging the Word Gap Research Network systematically reviewed more than 2000 studies and developed systematic reviews that:

- Synthesized evidence and identified most promising language promoting interventions
- Identified research gaps and pointed to most needed areas for future investigation
- Provided implications for practice and policy
- Pointed to exemplary areas of innovation

Walker, D., & Carta, J.J. (2020). Intervention research to improve language-learning opportunities and address the inequities of the word gap. *Early Childhood Research Quarterly*, 50, 1-5.

**Published syntheses in special issue of *Early Childhood Research Quarterly***





## Synthesis of Studies on Parent- Implemented Interventions

Heidlage, J.K., Cunningham, J.E., Kaiser, A.P., Trivette, C.M., Barton, E.E., Frey, J.R., & Roberts, M.Y. (2020). The effects of parent-implemented language interventions on child linguistic outcomes: A meta-analysis. *Early Childhood Research Quarterly*, 50, 6-23.

## Key Takeaways

1. Strong consistent evidence from RCTs and single case research demonstrating that parents can learn specific language support strategies
2. Significant evidence from RCTs that parent-implemented interventions can improve child language outcomes using Interaction-Based and Shared Reading Approaches
3. Very few studies have been carried out to demonstrate effects of parent training with low SES populations; however no evidence that parenting interventions are differentially effective across the range of SES



## Synthesis of Factors Influencing Implementation of Language- Promoting Interventions

## Key Takeaways

1. Across 124 studies, caregivers (either parents or teachers) were taught using 4 types of procedures:
  - Sharing information (95% of studies)
  - Modeling (85% of studies)
  - Providing feedback (65% of studies)
  - Using prompting/guiding/scaffolding (18% of studies)
2. It was difficult to ascertain which training procedures were most effective, because in many studies descriptions of training procedures were incomplete.
3. While only 58% of studies reported on fidelity measurement, 81% of studies measuring fidelity found moderate to strong levels of implementation.





## Synthesis of Studies of Language Interventions for Children from Culturally and Linguistically Diverse Backgrounds

### Key Takeaways

1. Interventions focused on explicit instruction, classroom curriculum interventions, interactive book reading/making interventions, and naturalistic responsive interactive interventions.
2. Vocabulary was the most commonly measured outcome.
3. Most interventions were delivered to children over 3 years of age and children from Latinx and/or children from Spanish-speaking backgrounds.
4. Most interventions were adapted linguistically (as opposed to culturally).

Larson, A., Cychk, L., Carta, J. J., Hammer, C., Baralt, M., Uchikoshi, Y., An, Z., & Wood, C. (2020). A systematic review of language-focused interventions for children from culturally and linguistically diverse backgrounds. *Early Childhood Research Quarterly*, 50, 157-178.



# Synthesis of Language Intervention Studies: Degree of Rigor and Readiness for Scale Up

## Key Takeaways

1. Only a small proportion of studies (about 10%) included low-SES child participants (those most at risk for experiencing the Word Gap).
2. While most of the studies were highly rigorous and employed RCTs, they revealed only a moderate degree of ecological validity, and a very low degree of readiness for scale-up. For example,
  - While parents and/or caregivers were the intended end-users of the interventions, researchers were most often reported as the intervention agents in these studies.
  - Most studies were early- to mid-stage and none addressed scale-up questions.
  - Weaknesses in scale-up methodology included lack of manuals, limited evidence of social validity, and infrequent use of technology and other limitations.

Greenwood, C.R., Schnitz, A., Carta, J.J., Wallisch, A., & Irvin, D.W. (2020). A systematic review of language intervention research with low-income families: A word gap prevention perspective. *Early Childhood Research Quarterly*, 50, 230-245.



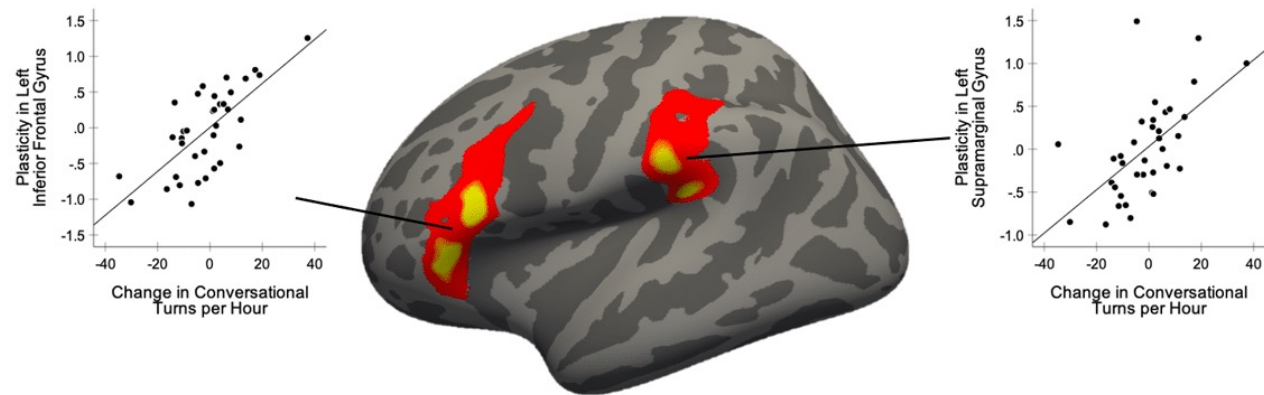
# Promising New Directions in Language Intervention Research



# Using brain imaging to document changes resulting from interventions

Neuroplasticity associated with changes in conversational turn-taking following a family-based intervention

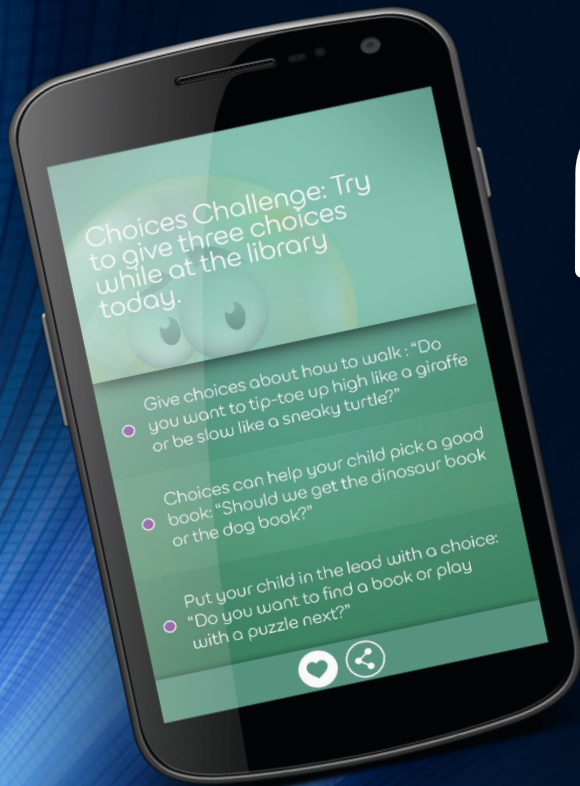
Romeo RR, Leonard JA, Grotzinger HM, Robinson ST, Takada ME, Mackey AP, Scherer E, Rowe ML, West MR, Gabrieli JDE. *Dev Cogn Neurosci*. 2021





# Delivering interventions in new ways

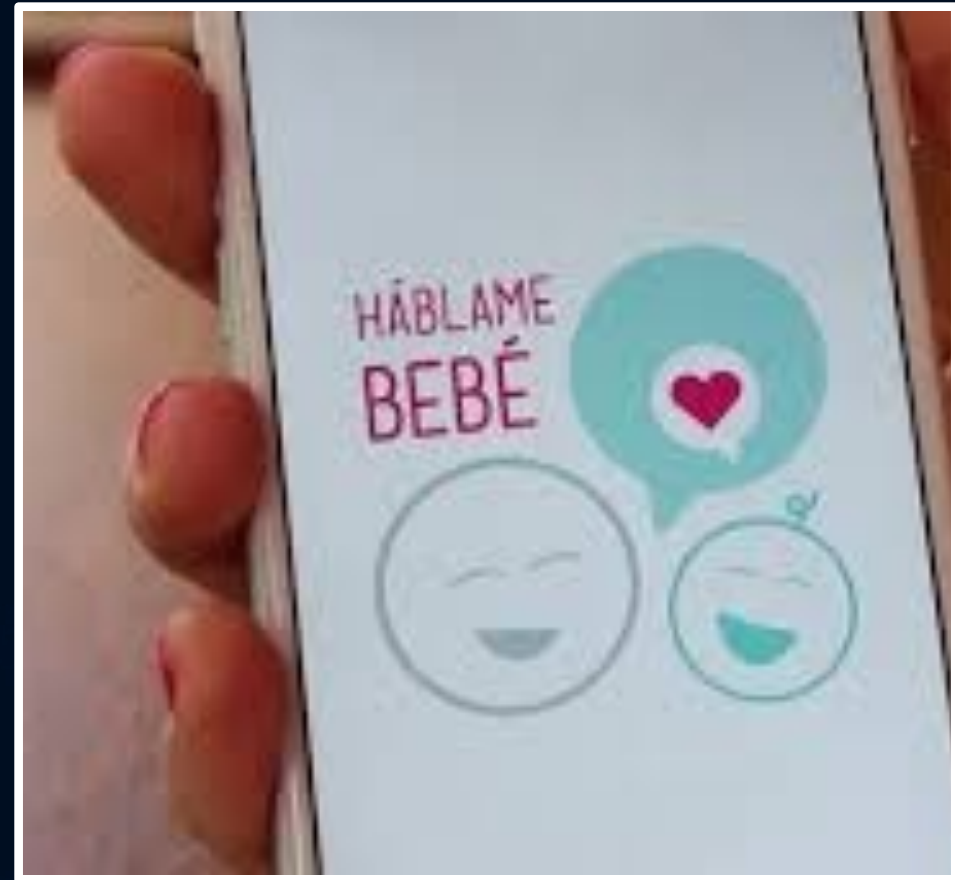
## Talk Around Town



A mobile phone app that sends location-based tips about things parents can be talking about when they're out in the community

# Employing Strengths-Based Approaches within Early Language Intervention

- Háblame Bebé: a mobile phone app for language promotion and for encouraging parents to foster their children's bilingualism
- Baralt et al. (2020)





# Embedding Language Interventions into Contexts Frequented by Parents of Young Children

## Video Interaction Project

play  
•  
read  
•  
grow  
•  
together

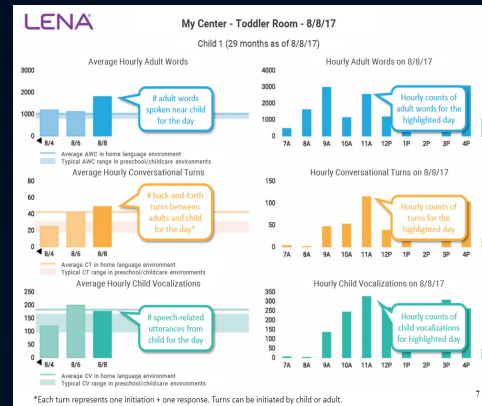
Pediatric Settings  
(Mendelsohn et al. 2007)



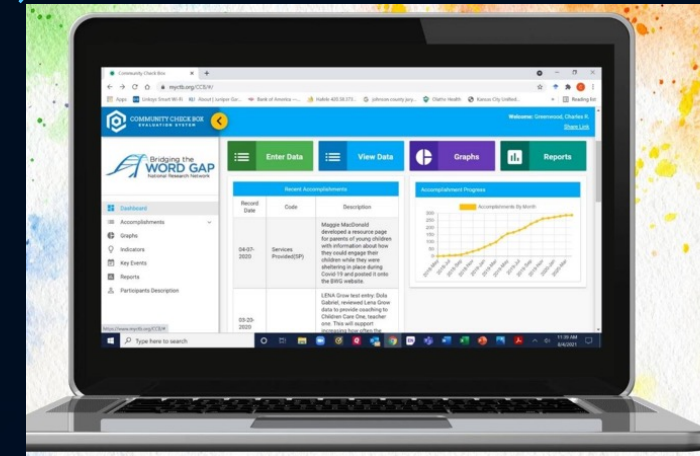
Laundromats  
(Family Read & Play Spaces  
(Neuman et al., 2020)

# Advances in Measurement are Providing New Ways to Monitor Programs and Provide Feedback

## DIGITAL LANGUAGE RECORDING AND AUTOMATED DETECTION (LENA)



## ONLINE TRACKING OF COMMUNITY-WIDE INTERVENTION (COMMUNITY CHECK BOX EVALUATION SYSTEM)

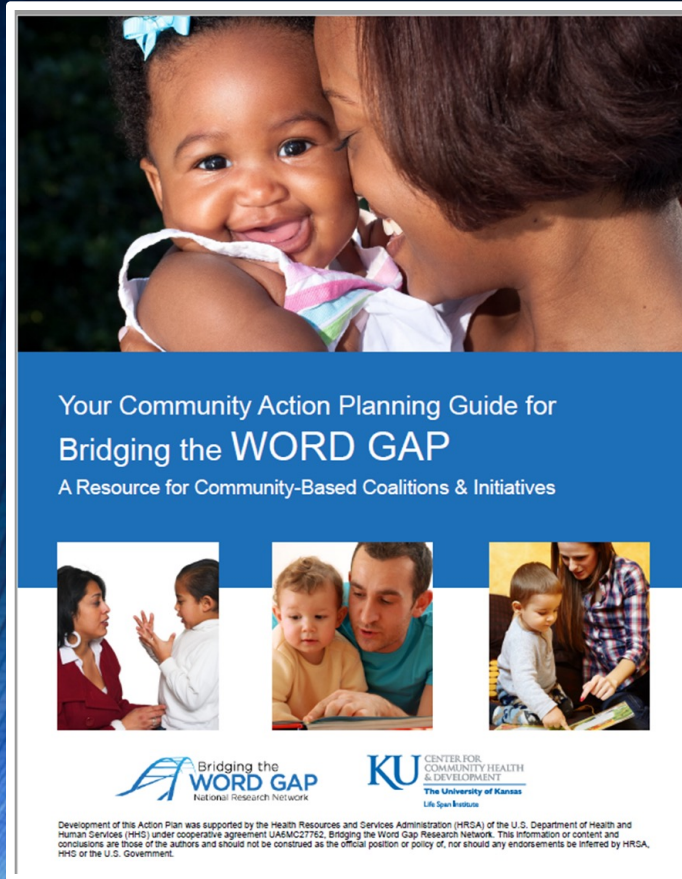


Gilkerson et al., 2018

Fawcett et al., 2017



# Carrying out multi-sector community-wide interventions for promoting early communication



Language Promotion  
across Community  
Sectors



Engaging the community into  
actions around reducing disparities  
in language experience


## Summary and Looking Ahead

- We have effective interventions that can enhance children's language learning environments (quantity and quality).
- We know that changes in children's language environments (caregiver-child interaction) can result in children's language outcomes and enhanced brain development.
- We know most about parent-implemented interventions and less about interventions implemented by other adults in children's environments.
- We have a small but growing body of knowledge about effective interventions for children who are dual language learners.



# Important Areas for Future Research

- We need to know more about long-term effects of these interventions: what is sustainable and what works best to promote equity and enhance later school and life outcomes.
- We need to know more about what works best for whom (children from underserved groups, from diverse cultural, linguistic, racial, ethnic groups).
- We need to know more about how these interventions work within the contexts of the real lives of families.
- We need to know more about factors that influence the implementation of these interventions and how to bring them to scale to influence population-level outcomes.



“Early talk is our point of  
greatest leverage for  
improving children’s  
futures.”

LENA FOUNDATION (2020)



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# Thank you!

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