

# The Role of Parent–Child Interaction in Early Language Development: A Review of the Literature

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Received 21 August 2025 | Revised 13 September 2025 | Accepted 15 October 2025 | Available Online 07 November 2025

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**Citation:** Moses Adondua Abah, Dorcas Ehiwario Kelvin, Kelvin Ehiwario, Micheal Abimbola Oladosu, and Nathan Rimamsanati Yohanna (2025). The Role of Parent–Child Interaction in Early Language Development: A Review of the Literature. *Social Science Reports*. DOI: <https://doi.org/10.51470/SSR.2025.09.02.55>

## Abstract

Parent-child interaction plays a crucial role in shaping children's language development, particularly during early childhood. The quality and quantity of interactions influence language acquisition, vocabulary growth, and communication skills. Responsive parenting, characterized by warmth, sensitivity, and engagement, fosters a supportive environment for language learning. This review examines the literature on parent-child interaction and its impact on early language development, highlighting the significance of interactional patterns, parental input, and socio-economic factors. This review focuses on the role of parent-child interaction in early language development. Findings from our study revealed that parent-child interaction significantly impacts early language development. Studies indicate that responsive parenting, including verbal responsiveness and joint attention, predicts better language outcomes. Parents' use of child-directed speech, expansions, and recasts facilitates language learning. Children from socio-economically disadvantaged backgrounds often experience less verbal interaction, contributing to language delays. However, interventions targeting parent-child interaction have improved language skills in at-risk children. The quality of interaction, rather than quantity, is a stronger predictor of language development. Fathers' and mothers' interaction styles contribute uniquely to children's language growth, highlighting the importance of involving both parents. Parent-child interaction is a critical factor in early language development. Responsive, engaging, and supportive interactions foster language learning, while socio-economic disparities can hinder it. Targeted interventions and parental education can promote language skills in at-risk children. Encouraging positive parent-child interaction benefits children's language development and long-term academic success.

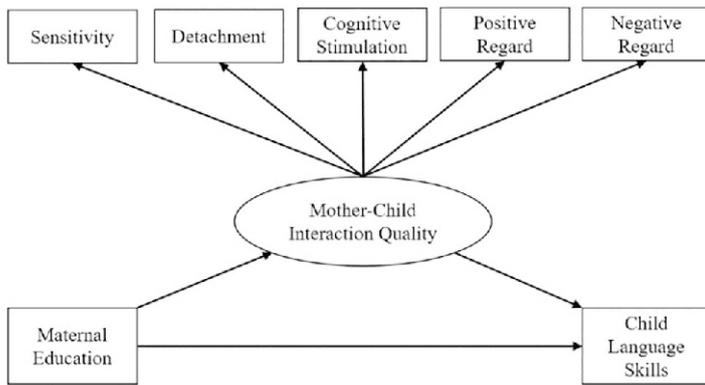
**Keywords:** Parent, Child, Early language development, Vocabulary growth, and Communication skills.

## Introduction

Language development in early childhood is one of the most dynamic and critical processes in human growth. From birth to age five, the brain undergoes rapid structural and functional changes, particularly in regions associated with auditory processing, memory, and language comprehension [1]. During this period, children acquire the foundational skills that will support later literacy, cognitive flexibility, and socio-emotional competence. Neurodevelopmental studies have shown that the first few years of life represent a sensitive window for language acquisition, with synaptic density peaking in areas like Broca's and Wernicke's regions during infancy and toddlerhood [2]. Early language abilities are not only predictive of future academic success but also serve as scaffolds for emotional regulation and social interaction. Children who develop strong verbal skills tend to navigate peer relationships more effectively, express needs and emotions with greater clarity, and demonstrate resilience in learning environments.

Conversely, delays in language development are associated with increased risk for behavioral challenges, reading difficulties, and reduced self-esteem in later childhood [3].

Central to this developmental process is the role of parent–child interaction. Language learning is not a passive absorption of words but a socially mediated experience. Through daily exchange—whether during book reading, play, or routine caregiving parents provide linguistic input, model conversational patterns, and respond to children's vocalizations. These interactions form the bedrock of language acquisition, shaping phonological awareness, vocabulary growth, and syntactic development. Research has consistently shown that the quantity and quality of verbal engagement between caregivers and children are among the strongest predictors of early language outcomes (see figure 1) [4].



**Figure 1.** Conceptual model of how parent-child interaction influences language development. It captures this cascading process, emphasizing that early, responsive interaction is not just beneficial, it is foundational to lifelong communication and learning.

Source: [5]

The theoretical underpinnings of this relationship are grounded in several influential frameworks. Social-interactionist theory, for instance, posits that language emerges from the need to communicate within social contexts. Children learn language through meaningful exchanges, where adults scaffold understanding by adjusting speech complexity, providing feedback, and expanding on child utterances [6]. Vygotsky's concept of scaffolding further emphasizes the importance of guided participation, where caregivers support children's learning just beyond their current capabilities, gradually transferring responsibility as competence grows. Emergentist approaches integrate cognitive science and linguistics, suggesting that language arises from the interaction of neural mechanisms, environmental input, and usage patterns. These models collectively highlight the dynamic, reciprocal nature of language development and the centrality of caregiver involvement [7].

The aim of this study is to synthesize current literature on the role of parent-child interaction in early language development, focusing on children aged 0–5. It examines empirical findings across diverse contexts, evaluates theoretical models, and identifies factors that enhance or hinder linguistic growth [8]. By drawing on interdisciplinary research, including developmental psychology, neuroscience, and education, this study seeks to inform best practices for caregivers, educators, and policymakers. Ultimately, it underscores the importance of nurturing responsive, language-rich environments during the earliest years of life [9].

### Foundations of Early Language Development

Language acquisition in early childhood is a dynamic and biologically primed process. From birth to age five, children progress through well-documented developmental milestones that lay the foundation for communication and literacy [7]. The journey typically begins with babbling around 4–6 months, where infants experiment with consonant-vowel combinations. By 12 months, most children produce their first words, often tied to familiar people or objects. Between 18 and 24 months, a vocabulary explosion occurs, with children acquiring new words at an astonishing rate—sometimes up to 10 per day. By age three, children begin combining words into simple sentences, demonstrating early syntactic awareness [1]. These milestones are supported by brain maturation and critical windows for language learning. During infancy and toddlerhood, the brain undergoes rapid synaptogenesis, particularly in regions associated with auditory processing and speech production [2, 3].

The Broca's area, located in the left inferior frontal gyrus, is responsible for speech articulation and grammar, while the Wernicke's area, in the superior temporal gyrus, handles language comprehension. These regions are connected by the arcuate fasciculus, a white matter tract that facilitates the integration of expressive and receptive language functions. Figure 2 shows the neural architecture involved in early language acquisition, highlighting the interplay between these key regions (see table Table 1).

Language development encompasses multiple dimensions. Lexical development refers to the growth of vocabulary and word knowledge [4]. Phonological development involves the ability to perceive and produce speech sounds, which is essential for decoding and spelling. Syntactic development pertains to understanding and using grammatical structures, while pragmatic development involves the social use of language such as turn-taking, politeness, and interpreting context. These domains evolve in parallel, often influenced by the richness of linguistic input and opportunities for interaction [2].

The relative contributions of environmental and genetic factors have been widely studied. Genetics play a role in setting the baseline for language potential, with heritability estimates ranging from 25% to 50% depending on the trait. However, environmental input, especially caregiver interaction, is the strongest predictor of early language outcomes. Children exposed to frequent, responsive, and varied language from caregivers tend to develop stronger vocabulary and grammar skills. Socioeconomic status, parental education, and home literacy environment further modulate these outcomes [3].

**Table 1.** Typical language milestones in the first five years of life

Age Range	Milestone Description
0–6 months	Babbling begins; responds to sounds
6–12 months	First words; understands simple commands
12–24 months	Vocabulary growth; two-word phrases
2–3 years	Combines words; uses plurals and pronouns
3–5 years	Complex sentences; storytelling; pragmatic use

Sources: [4, 5]

### Parent-Child Interaction as a Driver of Language Development

Parental responsiveness is a cornerstone of early language development. When caregivers engage in behaviors like labeling objects ("That's a dog"), expanding child utterances ("Dog bark" → "Yes, the dog is barking"), and recasting incorrect grammar ("Me want juice" → "You want juice"), they provide rich linguistic input that scaffolds vocabulary and grammar growth. Equally important is following the child's lead, which ensures that language input is relevant and engaging, fostering sustained attention and learning [2].

One of the most studied mechanisms in this context is joint attention, the shared focus between parent and child on an object or event. Joint attention episodes are fertile ground for vocabulary acquisition because they align visual and verbal cues, helping children map words to meanings. A recent study by [3] found that infants who frequently engaged in joint attention had significantly larger expressive vocabularies by age two.

The role of conversational turns, back-and-forth exchanges between adult and child, is especially critical. Unlike one-way speech (e.g., passive listening to TV), conversational turns promote active engagement, processing, and memory consolidation.

As observed in Figure 2, increased conversational turns are strongly associated with larger vocabulary size in children, based on data from the LENA (Language Environment Analysis) system.

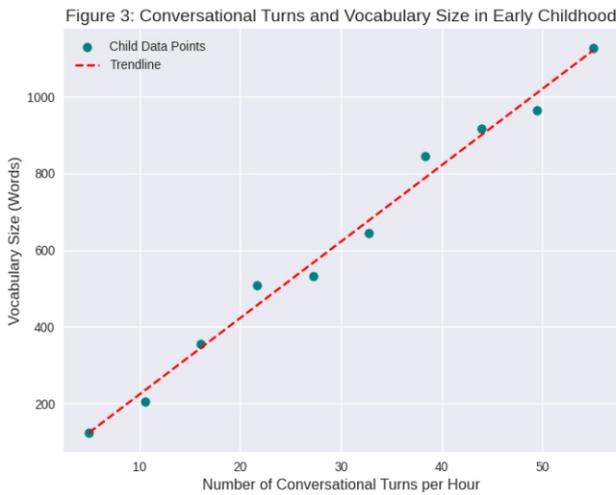


Figure 3. Graph showing the relationship between number of conversational turns and vocabulary size (based on LENA data).

Source: [2, 3]

Reading aloud and storybook engagement further enrich the language environment. Storytime introduces children to complex syntax, narrative structure, and diverse vocabulary. It also fosters emotional bonding and attention regulation. Studies show that children who are read to daily score higher on measures of language comprehension and expressive language [3].

Infant-directed speech, often called “motherese,” is another powerful tool. Characterized by exaggerated intonation, slower tempo, and simplified vocabulary, it captures infants' attention and enhances phonological discrimination. This speech style has been shown to activate language-related brain regions more effectively than adult-directed speech [4].

Table 2. Key parent-child interaction behaviors and language outcomes

Interaction behavior	Description	Language outcome
Labeling	Naming objects/events during interaction	Vocabulary growth
Expansions	Extending child's utterances	Grammar development
Recasts	Correcting child's grammar subtly	Syntax refinement
Joint attention	Shared focus on object/event	Word-meaning mapping
Conversational turns	Back-and-forth exchanges	Expressive vocabulary
Reading aloud	Storybook engagement	Comprehension & narrative
Infant-directed speech	Exaggerated tone and tempo	Phonological awareness

Sources: [2, 3]

Table 3. Summary of key empirical studies

Author(s)	Design	Sample	Interaction Type	Main Findings
[2]	Longitudinal (10 years)	36 families	Conversational turns	Predicts verbal IQ and literacy in adolescence
[4]	Observational longitudinal	56 families	Literacy talk	Enhances early reading/writing understanding
[6]	RCT	20 parents and toddlers	Shared book reading	Boosts vocabulary and comprehension
[7]	Exploratory intervention	Spanish families	Hanen Program	Improves parental responsiveness and child speech
[8]	Parent-focused intervention	Preschool children	Dialogic reading	Enhances narrative and grammar skills
[10]	Commentary/meta-analysis	Multiple datasets	Speech quality vs quantity	Directed speech drives language development
[12]	Case study	2 bilingual children	Code-switching	Supports bilingual competence and flexibility

### Evidence From Empirical Research

Over the past two decades, a growing body of empirical research has demonstrated the profound influence of parental talk on children's language development and broader cognitive outcomes. Longitudinal studies have been particularly illuminating. A 10-year study by LENA researchers found that the number of conversational turns between parents and children in the first three years of life strongly predicted verbal IQ and literacy skills in adolescence [4]. Similarly, [5] observed that parent-child conversations about literacy, even before formal schooling, enhanced children's understanding of reading and writing processes.

Experimental studies have tested the effects of parent training on language outcomes. [1] conducted a randomized controlled trial using a shared book reading intervention. Parents who received 12 weeks of training showed significant improvements in their children's vocabulary and comprehension compared to a control group. Another study by [2] highlighted how dialogic reading and parental speech contingency improved expressive skills in late talkers.

Intervention programs have operationalized these findings into scalable models. The Hanen Program, “It Takes Two to Talk,” equips parents with strategies to foster language during everyday routines. Evaluations show increased parental responsiveness and improved child communication outcomes [1]. The LENA “Talk” programs use wearable devices to measure adult word count and conversational turns, helping families increase meaningful interactions. These programs have been linked to gains in vocabulary and social-emotional development table 3 [2]. Dialogic reading, where parents prompt children with questions and feedback during storytime, has proven effective in boosting narrative skills and grammar [3].

A key insight from these studies is the impact of quality vs. quantity of speech. While the sheer volume of words matters, the richness, responsiveness, and interactivity of speech are more predictive of developmental outcomes. [4] argue that directed, contingent speech not overheard language, is the true driver of linguistic growth.

Socioeconomic influences remain a critical concern. The “30-million-word gap” hypothesis, originally proposed by Hart and Risley, suggests that children from lower-income households hear significantly fewer words than their peers. Though debated, recent studies affirm that disparities in language exposure persist and affect school readiness [5]. Addressing these gaps requires community-based interventions and culturally responsive support.

## Evidence-Based Strategies to Improve Parent-Child Language Interaction

One of the most effective approaches to enhancing early language development is coaching parents in responsiveness and conversational turn-taking. This involves training caregivers to follow the child's lead, respond contingently to vocalizations, and engage in back-and-forth exchanges. Studies show that when parents increase the frequency and quality of conversational turns, children demonstrate significant gains in vocabulary and expressive language [6]. Coaching often includes video feedback, role-play, and modeling techniques that help parents recognize and reinforce their child's communicative attempts.

Dialogic reading and shared book routines are another cornerstone of language enrichment. Unlike passive reading, dialogic reading encourages parents to ask open-ended questions, expand on children's responses, and prompt predictions. This interactive style supports narrative skills, grammar development, and comprehension. Programs like "Let's Read Together" have shown that dialogic reading improves both expressive and receptive language in preschoolers [7].

Home-based and community language programs extend these strategies beyond clinical settings. Initiatives such as LENA Start and Hanen's "It Takes Two to Talk" provide structured support for families through workshops, coaching sessions, and digital tools. These programs are especially valuable in underserved communities, where access to early intervention may be limited. They promote equity by equipping caregivers with practical skills and tracking progress through measurable outcomes [8].

Reducing passive media exposure is also critical. Limiting screen time and promoting interactive play creates more opportunities for verbal engagement and joint attention. The American Academy of Pediatrics recommends no more than one hour of screen time per day for children aged 2–5, emphasizing the importance of human interaction over digital stimulation. Interactive play such as pretend games, building activities, and outdoor exploration naturally elicits language and supports cognitive development [9].

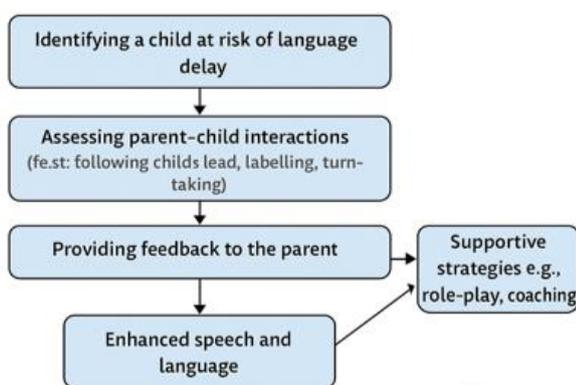


Figure 3: Roadmap for next-generation research and intervention priorities  
Source: [10]

Figure 3 outlines a practical framework for implementing parent-training models. It begins with identifying children at risk of language delay, followed by assessing parent-child interactions. Feedback and coaching are then provided, leading to improved speech and language outcomes.

## Future Directions

As research on early language development continues to evolve, several promising avenues are emerging that can deepen our understanding and improve intervention strategies. One critical priority is the need for culturally sensitive research. Much of the existing literature is based on Western, middle-class populations, which may not reflect the diverse interaction styles and linguistic norms found globally. Future studies must explore how cultural values, caregiving practices, and language ideologies shape parent-child communication and developmental outcomes [10].

Another exciting frontier involves neuroimaging techniques to study parent-child linguistic synchrony. Technologies such as functional near-infrared spectroscopy (fNIRS) and hyperscanning allow researchers to observe real-time brain activity in both parent and child during interaction. These methods can reveal how shared attention and turn-taking activate neural pathways associated with language processing and emotional bonding [11]. Digital tools are also transforming how we support families. Apps that track conversational turns, such as those developed by LENA, and AI-based speech counters can provide feedback to caregivers and help monitor progress. These tools offer scalable solutions for promoting responsive interaction, especially in resource-limited settings.

There is growing recognition of the importance of father-child communication and non-parental caregivers. Historically, research has focused on mothers, but fathers and extended family members also play vital roles in language modeling and emotional support. Studies show that when fathers engage in reading and play, children benefit from diverse linguistic input and social perspectives [12].

## Conclusion

There is strong and consistent evidence that responsive, high-quality parent-child interaction is foundational to early language development. From babbling to storytelling, the richness of verbal engagement shapes vocabulary, grammar, and literacy outcomes. The emphasis must remain on early, consistent engagement, supported by caregivers who are attuned to their child's cues and needs. Moving forward, there is a clear need for public awareness, accessible interventions, and supportive policies that empower families across diverse contexts. By investing in these strategies, we can ensure that every child has the opportunity to develop strong communication skills and thrive in learning environments.

## Acknowledgement

We thank all the researchers who contributed to the success of this research work.

## Conflict of Interest

The authors declared that there are no conflicts of interest.

## Funding

No funding was received for this research work.

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