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EARLY LANGUAGE AND BRAIN DEVELOPMENT

Research underscores the critical role of early language exposure in brain development. According to the Center on the Developing Child at Harvard University, a child's brain forms approximately one million new neural connections every second. Studies from MIT reveal that the number of conversational turns children experience is strongly linked to brain activity and structure and serves as a predictor of IQ and language skills in adolescence. Establishing a communicative foundation—even before spoken language emerges—is essential for fostering language growth (Golinkoff, 2015). Simply put, conversations with significant people build the brain.

LANGUAGE DEVELOPMENT

Language development begins long before children produce their first words. Even in the prenatal stage, fetuses demonstrate sensitivity to sound, differentiating between speech and other auditory stimuli. After birth, newborns show a preference for familiar voices, particularly that of their mother, indicating early recognition and memory of auditory patterns. These foundational skills gradually evolve as infants begin to coo, babble, and experiment with the rhythm and melody of speech. Such vocal play is not random; it reflects the brain's growing capacity to process and reproduce linguistic structures. As receptive language expands, infants learn to associate sounds with meaning, responding to tone, gestures, and simple words. Expressive language follows with children using cries, gestures, and eventually words or signs to convey needs and emotions. This progression underscores the dynamic interplay between biology and environment: neural growth provides the capacity, while social interaction provides the stimulus. Together, these processes establish the communicative framework upon which later vocabulary, grammar, and complex language skills are built.

WHAT IS COMMUNICATION?

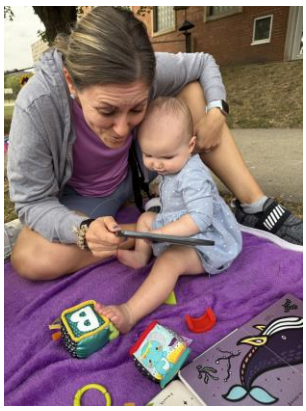
Communication in early childhood encompasses three interconnected abilities: receptive language, expressive language, and social engagement. Together, these skills form the foundation for later language and cognitive development.

- **Expressive Language** begins at birth with crying and gradually expands to cooing, babbling, pointing, and eventually the use of single words and short sentences. Through these forms, children express needs, wants, and emotions. Nonverbal cues such as eye contact, smiles, and body movements also play a vital role in signaling interest and engagement.

- **Receptive Language** refers to a child's ability to listen to and understand spoken language. Even before they can speak, infants demonstrate receptive skills by responding to familiar voices, recognizing their name, and following simple directions. As toddlers grow, receptive language expands to include comprehension of increasingly complex vocabulary and sentence structures.

- **Social Engagement** involves the child's capacity to participate in communicative exchanges with adults and peers. This includes turn-taking in conversation, responding to social cues, and developing the ability to share attention and experiences. Social engagement fosters relationships and provides an interactive context in which both expressive and receptive language flourish.

THE POWER OF RESPONSIVE INTERACTIONS



Every smile, every gentle word, every shared moment shapes a child's future. Infants and toddlers learn to communicate best in environments where caring adults value back-and-forth exchanges, respond to children's communicative intent, and create engaging experiences that nurture language and vocabulary growth. A communication-rich environment is intentional with specific strategies utilized to support language development. When adults who play an important role in a child's life respond to their attempts to communicate, infants and toddlers are encouraged to keep trying, laying the foundation for lifelong learning.

Attunement is the process of synchronized, mutual engagement that forms the basis of positive relationships. It develops over time between infants and the adults who care for them (Bardige, 2016). Attuned adults accurately interpret cues—knowing when a baby needs more or has had enough. They understand when to talk or sing, when to touch or rock, when to use a soothing voice, and when to pause so the infant can learn self-regulation. These responsive interactions build a deep sense of security, helping babies thrive at home and in school.

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Language doesn't just happen—it grows through connection. When adults consistently notice and respond to children's signals, whether gestures, sounds, or emerging words, they create a dynamic feedback loop that strengthens communication skills. These exchanges teach children that their voices matter, building confidence and competence in expressing themselves.

Responsive interaction also fuels cognitive growth. By expanding on a child's utterances, introducing new vocabulary, and linking words to real experiences, adults provide the building blocks for more complex language structures. Over time, these practices nurture not only linguistic development but also social-emotional skills, as children learn the rhythms of conversation and the joy of being understood.

WHAT PRACTICES SUPPORT INFANT AND TODDLER LANGUAGE DEVELOPMENT?

Language development in infants and toddlers flourishes when adults intentionally create environments that encourage exploration, interaction, and expression. "Creating a language-rich environment is beneficial to all children. Providing chances to learn with their minds (thinking), bodies (moving), and hearts (feelings) is crucial to good communication**. The easiest way to do this is to play! It is time well spent."**

— Julie Norman, M.S., CCC-SLP and HYM Lead Therapist

Practices that are particularly effective include:

- **Get Chatty:** Engage in conversations with children.
- **Be a Commentator:** Give descriptions of objects, experiences, or events.
- **Mix It Up:** Use different types of words and grammar including words from the child's home language.
- **Label It:** Provide children with the names of objects or actions during play and classroom routines.
- **Tune In:** Engage in activities or introduce objects that interest children.
- **Read Interactively:** Use books that encourage participation. Include story pieces or puppets that engage children. Combine imagination and language for rich learning experiences.
- **Read it Again & Again:** Read favorite books multiple times. Encourage children to choose the books you read.
- **Props, Please:** Introduce novel objects that spark conversations.
- **Sign It:** Introduce simple signs to help children express needs and emotions before speech.
- **Visual Supports**: Use pictures, objects, and cues to link words to concepts.
- **Conversational Turn-Taking:** Pause, listen, and respond to encourage communication rhythms.
- **Make Music:** Share songs and rhymes that encourage participation. Include props and story pieces that enhance the song. Pairing songs with gestures, clapping, or dancing helps children connect words with actions. Rhymes with predictable rhythms encourage participation, build phonological awareness, and lay the groundwork for later literacy skills. By combining music, rhymes, and movement, caregivers and educators create a language-rich environment that nurtures vocabulary, strengthens memory, and fosters joyful communication.

-adapted from Gardner-Neblett & Gallagher, 2013

STEM EXPERIENCES AND LANGUAGE DEVELOPMENT

Play offers countless opportunities for young children to explore science, technology, engineering, and math (STEM) as they investigate the world around them. The Boston Children's Museum describes STEM in the following ways:

- **Science** is a way of thinking—observing, experimenting, making predictions, sharing discoveries, asking questions, and wondering how things work.
- **Technology** is a way of doing—using tools, being inventive, identifying problems, and making things work.
- **Engineering** is also a way of doing—solving problems with a variety of materials, designing and creating, and building things that work.
- **Math** is a way of measuring, sequencing (1, 2, 3, 4…), patterning (1, 2, 1, 2…), and exploring shapes (triangle, square, circle), volume (holds more or less), and size (bigger, smaller). Math also involves spatial reasoning, such as figuring out how many balls fit into a basket or which box is big enough for their whole body.

Even before they acquire spoken language, infants explore how their world works by moving toward things that interest them, pointing, and gesturing. When teachers build on children's curiosity about the natural world or how things move, they create opportunities to introduce materials and experiences that spark rich language development and inquiry. Through these experiences, children observe, have questions and make predictions, interpret findings, use tools and materials to investigate,

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and make discoveries. Close observation by adults is necessary in order to understand what the children are learning when infants and toddlers do not yet have the language to express all that is happening.

Through play, children use their senses to explore nature, move objects and themselves to understand space, identify problems worth solving, and create things that matter to them. Play is also an ideal context for introducing inquiry—a process that helps children explore how the world works and develop explanations based on their observations. Early exposure to STEM through play helps children make sense of the world and express their ideas clearly. As they build, measure, and explore, they learn new words, practice asking questions, and engage in conversations that deepen understanding. Embedding STEM in playful, inquiry-driven experiences not only develops problem-solving skills but also enhances language development—critical for future learning and communication.

EMERGENT BILINGUAL INFANTS AND TODDLERS

Children are wired to learn multiple languages—and the benefits are remarkable. Yet, there is often a gap between what science tells us and what happens in practice. Most experts agree that educators need professional development focused on strategies that support the growing number of multilingual learners. Research shows that children learning multiple languages demonstrate advantages in **cognitive abilities**, **executive function**, and **social-emotional development**. These learners thrive when they receive **high-quality instruction in both languages**, aligned with their skills and cultural background (Multilingual Learning Toolkit (2026). Other key factors include:

- Smaller Class Sizes: Higher adult-child ratios accelerate language development for all children.
- Inclusive Classrooms: Monolingual children also benefit when multilingual peers are part of their learning environment.

Supporting emergent bilinguals isn't just good practice—it's essential for equity and excellence in early education.

ENGAGING FAMILIES

Educators play a key role in helping parents understand the power of everyday interactions for language development. From birth to age five, children learn language through simple, meaningful exchanges—during play, mealtime, or bedtime reading. Encourage parents to talk about what their child is doing, describe events, and respond to their interests. These actions help infants connect words with actions and build understanding (Lewin-Benham, 2023). The **quantity and quality of talk matters**. Using diverse vocabulary, asking open-ended questions, and engaging in back-and-forth "conversational turns" are linked to stronger language and literacy skills (Hart & Risley, 1995; Hirsh-Pasek et al., 2015). Research also shows that caregiver talk not only teaches words but strengthens children's ability to process language and creates a foundation for future learning (Weisleder & Fernald, 2013). By modeling these strategies and explaining their impact, educators can empower families to turn everyday moments into rich opportunities for language growth.

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