Foreign Language for Babies:

Developing language potential and brainpower for your baby.

As parents, we want to raise bright, happy, healthy children, capable of anything they might dream. A positive, stimulating environment helps babies achieve this, and many parents intuitively know that hearing a foreign language is a positive experience for their baby's brain. There are many neurological benefits associated with early foreign language interaction, which is why smallTalk has developed a science-based, proven language learning system that is easy for parents to implement and babies to enjoy.

When a baby is in an environment where they can interact with two or more languages, they benefit for a lifetime.[1] Infancy is the only time of life where this language interaction really changes the brain. We like to call this "brain magic," but it's really well-established neuroscience.

Let's dive in.

Interacting with Multiple Languages Unlocks "Brain Magic" for Babies

When a baby is born, their brain development accelerates immediately, as their sensory system is flooded with information. Brain development for infants depends on experience. Our natural tendency to provide a warm, loving and interesting environment for our babies is beneficial to them! And the impact on their life is profound because the establishment of the sensory system in infancy is the foundation for more complex brain processes to develop.

Contingent Learning.

A baby's language development is connected to contingent, or interactive, learning experiences. Research shows that exposing a baby to passive language content, like videos and TV shows, can provide *some* foreign language learning, (e.g., vocabulary), but complex language learning is improved when the learning experience is contingent on a baby's participation.[2]

The importance of an interactive experience in language learning is why all smallTalk products are designed to respond to a baby's age-appropriate action; it's how the baby is *engaged in active learning.*

As an example, the smallTalk Egg, intended for babies under 6 months, engages the baby by equipping their pacifier with a sensor. They are enabled, with this intentional action, to "ask" for foreign language content from the Egg. Our plan is to soon introduce two new products targeted for later infancy, when the baby can reliably use their hands for touching, twisting, and pulling actions – unlocking language content.

Infant-directed speech.

Another key element for infants is how we speak to them. Most adults will naturally adopt a different language pattern, called infant-directed speech, when speaking to babies (Don't resist! Babies love it and need it).

Affectionately called "baby talk" or "parentese", infant-directed speech has been shown to play a vital role in infant language acquisition.[3]

This speech pattern uses simplified grammar, higher pitch, repetition, shorter phrases, and positive emotional tone.[4] We do this naturally, because this is the speech pattern that benefits babies as they map their brain to the individual speech sounds, or phonemes, of their native language or languages. The advantage of using infant-directed speech is that it is better at holding the infant's attention and it helps the infant identify parental intent.[5] smallTalk's exclusive content features native foreign language speakers (all mothers themselves) using this infant-directed speech pattern to share the lullabies, songs and stories from their culture. The result when your baby asks for a lullaby in the language you've chosen? "Brain magic."

Speech sounds and language learning.

As adults, one reason learning a new language can be so hard is that our brain was specialized with neural connections for our native language, which may have an entirely different set of speech sounds from the one we're trying to learn. Because we weren't exposed to this language during infancy, our brain can't "hear", or more accurately, differentiate the unique speech sounds in the new language. For some perspective, the English language contains about 44 phonemes,[6] which is similar to the number of phonemes recognized by the average monolingual adult. What is interesting is that the phonemes recognized by the brain are locked in by the time we reach one year old. And when you can't differentiate a speech sound, like the French "r", you can't easily create that sound either.

Babies, are born with the ability to hear ALL of the 800+ unique speech sounds that make up our globe's languages.[7] However, as the baby specializes in the speech sounds they hear and interact with in their world, they lose the ability to differentiate the sounds which they do not experience.[8]

But by repeatedly interacting with two (or more) languages during the first year, babies establish the neural connections required to distinguish these additional unique sounds for a lifetime. This sets the foundation for learning a second or multiple languages with native fluency.

But the benefits don't stop there. The "brain magic" also includes what these new neural connections mean for impacting how the brain works.

Lifelong Benefits of a Bilingual Brain

Early exposure to foreign languages also triggers more sophisticated neural connections in the brain, activating regions of the brain associated with language as well as cognitive control.[9]

Language acquisition and brain development are uniquely intertwined during infancy, meaning language learning at this stage actually shapes how the brain functions for a lifetime.

When compared to monolingual individuals, research shows that bilingual individuals exhibit activation in more areas of the brain when processing language. But here's the amazing thing—this same phenomenon occurs in individuals who only interacted with that second language during infancy—even if they never learned to fully speak or understand the language!

Essentially, early foreign language exposure creates a "perceptual wedge"[10] that keeps a baby's brain open to language sensitivity longer than single-language learners. Because of these positive impacts, babies given a "bilingual advantage"[11] experience lifelong benefits, including:

Permanent neural connections in the brain[12]

The brain wants to retain information that may be valuable for later use, and prune away what it deems unnecessary.

Connections made in early stages of development remain even when the original source of information is absent.[13]

Improved executive functioning[14]

Executive functioning relates to cognitive control, conflict monitoring, planning, attention span, and suppression of habitual responses.[15]

Executive functioning tasks include shifting attention, switching tasks, and solving problems.[16]

Improved communication skills and cognitive flexibility[17]

Cognitive flexibility refers to the brain's ability to adapt to new situations and circumstances – particularly in new learning situations where the brain must use alternative neural connections when others are not available.[18]

Increased creativity and musicality.[19, 20]

Increased attention span and cognitive flexibility lend themselves to higher creativity--a skill developed through extensive exploration.[21]

Sensitivity to acoustic differences within speech extends into the music domain.[22]

Increased metalinguistic skills[23]

Metalinguistic skills are the ability to think about language and how it works.

These skills include heightened awareness of language switches when others are speaking and the ability to accept variations in pronunciations.[24]

Easier learning of foreign languages[25]

Infant exposure to a language during the first six months, even when it was not maintained, allows them to relearn that language later in life as well as have an easier time learning other languages.[26]

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