

FOREWORD

WE HUMANS can contribute to “history” in many ways. The way we live our lives—our dilemmas, decisions, and choices—contributes to our personal history. Our interactions with our families, neighbors, community, and colleagues at work contribute to a larger social and cultural history. And every now and then, we contribute to the *making* of history. The present authors, Barbara Bodner-Johnson and Beth Sonnenstrahl Benedict, indeed contribute to the making of history, and this pioneering book, *Bilingual Deaf and Hearing Families*, couldn’t have come at a more perfect time.

We presently stand at a great crossroad in society’s understanding of the needs of a healthy growing mind, especially involving the needs of the young deaf child’s healthy growing mind. Like the titration chemistry experiments from our high school days, whereupon one final squeeze of the dropper radically changes the liquid from clear to technicolor, we teeter on a similar moment of radical conceptual change in society, one that provides a richer, more vibrant vision into the educational and developmental needs of young deaf children.

In the pages within, Bodner-Johnson and Benedict offer the reader a vastly rich view into the developmental and educational needs of young deaf children. They provide the pivotal, previously missing “drops”—the

key pieces of evidence—to lead society from its first flash of insight to fundamental conceptual change. The key pieces of evidence they present are twofold. First, from their theoretical understanding of the interdependence of the individual and the individual's society, the authors lay bare a crucial factor that contributes to a young child's healthy linguistic, cognitive, and social-emotional growth. Specifically, they provide a new lens on the impact of the family in a developing child's life. Through personal discussion with ten families, and described through the families' own words, the authors respectfully reveal the ways that families with deaf children live their daily lives. The knowledge advanced from this vantage point alone will help all families, particularly families with deaf children, and the book does more. To be sure, this book enriches the knowledge that professionals can bring to their practices.

Yet there is a second history-making vantage point offered in this book. It involves the authors' important focus on bilingualism, and the remarkable advantages that bilingual education affords to all developing children. With astute knowledge, and through impressive scholarship, the book reveals the stunning cognitive, linguistic, and social-emotional advantages when deaf children grow up with both a signed language and a spoken language—here, American Sign Language (ASL) and English. Powerfully, the families' accounts comprise a vivid “technicolor” of unique evidence—evidence that is rendered especially poignant through the use of these living examples that show the benefits of early bilingual ASL-English language exposure.

And herein lies the richest historical impact of this book. The “cross-road” that I mention above is not just a metaphor for the choices that we make of an abstract, philosophical nature. Goodness, the issues here couldn't be farther away from medieval philosophical contemplations about, for example, the number of angels that can dance on the head of a pin! Instead, the kind of choices that families with deaf children now face can be life-altering for the deaf child, her family, and, ultimately, for society. The stakes parents face about which road to take in raising a deaf child are now the highest that they have been in history.

On the one hand, modern technological advances in auditory-transmission devices (e.g., cochlear implants) as well as improved surgical procedures have led some professionals to direct parents toward one

exclusive path to follow when educating their young deaf child. Here, some parents are urged to maintain strict adherence to a speech-only educational strategy, and any concomitant exposure to a natural signed language, like ASL, is viewed as damaging the child's ability to learn English and English literacy skills.

On the other hand, stunning advances in the capacity to neuroimage the developing infant's brain while acquiring one language as compared to acquiring two languages (be they two spoken languages or a spoken and a signed language)—coupled with advances in behavioral methods to test what infants “know”—have led to two revolutionary advancements. First, we understand the benefits of early sign language exposure for the young deaf child. Second, we understand the benefits of bilingual language exposure in early life.

Here, old myths about the detrimental impact of early exposure to signed language are now crashing down. Early language exposure to a signed language, and especially early bilingual exposure to ASL and English, afford striking *advantages* in language, reading, and cognitive processing that actually facilitate reading and literacy skills in English. Moreover, old fears of “losing” a young deaf child if he or she is exposed too early in life to a signed language, and “language delay” by exposing a child to two languages early in life, are now widely understood to be scientifically unfounded.

Early Signed Language Exposure: The brain and behavioral studies from my science laboratory spanning three decades—as well as discoveries from the science laboratories of many other researchers—have consistently revealed that early exposure to a natural signed language is highly beneficial to normal human language and cognitive development. Remarkably, early exposure to a signed language in young deaf infants changes their brains' visual attention processing. This, in turn, has *positive* “upstream” impact on their higher cognitive and language learning abilities, as well as on their enhanced capacity for social-emotional self-regulation. As deaf infants grow into toddlers, studies of these children during book reading with their signing parents have found heightened eye gaze tracking ability relative to children without sign input, which, in turn, is vital to early vocabulary, language, reading, and literacy mastery, both in ASL as well as in English. Thus, an

important consequence of exposing young deaf children to a natural signed language early in life is that it affords an advantaged visual capacity, which, in turn, facilitates the child's ability to achieve healthy and developmentally appropriate cognitive, language, and reading milestones.

Early Bilingual Language Exposure: Researchers have found that early bilingual language exposure affords cognitive and, newly discovered, surprising language and reading advantages over age-matched monolingual children and adults. Moreover, early bilingual exposure affords the most robust and optimal lifelong cognitive and linguistic advantages over later dual or second language exposure. What has been especially fascinating to me is that this is also true of early bilingual signed and spoken language exposure, which provides linguistic processing strengths across both languages. Remarkably, early access to a signed language can *improve* a deaf child's performance in reading English!

A related set of findings further captures our imagination because they provide a stunning challenge to a popular worldview. The findings result from a seemingly simple question: How do young deaf children who are *good* readers in English do it? How is it possible given that they do not have access to a sound-based phonology? For decades, the young hearing child's reading success in English has been viewed as stemming from their use of sound-based phonological representations to access meaning from the printed word.

The answer to the question is thrilling and teaches us about the universal nature of all human language. There is now growing and very exciting evidence that deaf children and adults also have and use an intermediate "phonological" level of language representation when accessing meaning from printed words. Here, the deaf reader is not using sound-based phonology. Instead, they use a *visually based* phonological level of language processing. For deaf children who are good readers, then, rather than phonological representations consisting of sound units, what comprises the brain's phonological representations appear to be more akin to visual units, or bits of fingerspelling, and parts of rhythmic, phonetic-syllabic movements, and hand configurations from signed language! This means that the encoding/decoding of print once believed to require sound is also done in signed languages with visual units, and appears to be an

important and universal process underlying all early reading acquisition.

The irony here is not to be missed: Contrary to old fears that sign exposure harms a young child, it turns out that facilitating a deaf child's establishment and use of fingerspelling, sign-phonetic, and sign-syllabic organization appears to be an excellent means for promoting and successfully teaching reading to young deaf children in English!



In returning to the choices that contemporary parents are facing regarding the education of their young deaf children—and in light of the truly urgent, life-altering nature of these choices for deaf children, their families, and society—the present book provides us with vivid clarity. Here, we see first-hand how early life bilingual ASL-English exposure leads to cognitive, linguistic, and social advantages—indeed, we witness the emerging steps, how the advantages take shape in everyday life. This new knowledge is empowering for parents and leads to perspective-changing knowledge, both for education and for society.

Now is a pivotal time in our understanding of the growing mind and the conditions for optimal growth in the young deaf child. The present book brings us past the critical moment in our metaphorical titration chemistry experiment, and we now stand in wonderment at the rich knowledge that has accumulated over decades. Our new understanding and vision for the future are breathtaking, and provide clarity: Early exposure to a natural signed language, and, in particular, early exposure to two languages—for example, ASL and English—is not harmful to young deaf children and instead affords stunning learning and social-emotional advantages. Important steps are left to take, of course. We do need to take the actions that follow from this revolutionary knowledge and change educational policy, practice, and societal views in ways that both fulfill the potential and celebrate the strengths of the young deaf visual learner.

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