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## Early Intervention Network: Evidence Summary

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**Factor 1: Direct and daily access to language and communication is essential to facilitating each child's language and communication development.**

### Annotated Evidence:

- Bailes, C. N., Erting, C. J., Erting, L. C., & Thumann-Prezioso, C. (2009). Language and literacy acquisition through parental mediation in American Sign Language. *Sign Language Studies*, 9, 417-456.

The article compares a hearing and deaf child's acquisition of language through psychologist's Lev Vygotsky's sociocultural model of development. Included in the article is a case example of a longitudinal study (birth to 2 years old) of a deaf child raised by deaf parents. The article highlighted how the parents mediate their child's language acquisition and cognitive development, and their processes of transferring the knowledge their child acquires in ASL into literacy learning in written English. Results identified the importance of "eye-to-eye joint attention," intentional statements from the parent that requires a response, use of modeling by the parents (scaffolding in Vygotsky's terms), continued parent-guided language development, and practice in language acquisition.

- Blamey, P. J. (2003). Development of spoken language by deaf children. In M. Marschark & P. E. Spencer (Eds.), *Oxford handbook of deaf studies, language, and education* (pp. 232-246). New York: Oxford University Press.

This is a review pertaining to the development of language in deaf and hard of hearing children who have access to sound via technology (e.g., cochlear implants or hearing aids) and who have not yet learned sign language. The article includes a description of spoken language and measurements of spoken language, and reviews the importance of hearing in speech perception, while identifying a critical period of language acquisition. Results suggest that delays in spoken language can be improved with early detection of hearing loss and use of hearing aids or cochlear implants, but are variable depending upon the child.

- Calderon, R. (2000). Parent involvement in deaf children's education programs as a predictor of child's language, early reading, and social-emotional development. *Journal of Deaf Studies and Deaf Education*, 5, 140-155.

This article examines 28 children with moderate to profound sensorineural hearing loss who graduated from an early intervention program. Results showed that parental involvement in their child's school-based education program is a significant positive predictor to early reading skills, although maternal communication skills and the child's hearing loss were the strongest predictors for language development.

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- Easterbrooks, S., & Baker, S. (2002). *Language learning in children who are deaf and hard of hearing: Multiple pathways*. Boston: Allyn & Bacon.

Chapter two examines the factors that contribute to language acquisition. An accessible language environment in the home was noted as the most crucial aspect of early language development. This is because language develops naturally in the context of the family only if it is accessible to the child.

In chapter three, multiple theoretical orientations toward language acquisition (i.e., neurolinguistic, sociocultural, and information processing) are discussed with emphasis on the diverse population of deaf and hard of hearing children (e.g. cochlear implant, family style, reason for them becoming deaf, neurological functioning, and having additional disabilities). The article concludes with support for a trimodal mechanism to language acquisition, and fight for better strategies that address the diverse linguistic needs of students. The trimodal mechanism recognizes that all three: neurological functioning, information processing, and sociocultural factors, contribute to and influence language acquisition.

- Emmorey, K. (2002). *Language, cognition, and the brain: Insights from sign language research*. Mahweh, NJ: Lawrence Erlbaum Associates, Inc.

Chapter five is an overview of the developmental process of language acquisition (babbling to syntax and abstract expression) as it relates to acquiring American Sign Language. Research suggests that the linguistic development of ASL mimics the development of spoken language, including similar functional errors and corrections regardless of the expressive modality.

Chapter six examines the critical period hypothesis of language acquisition and applies it to study children who have developed ASL in absence of a model, as well as the effects of late language acquisition on the cognition and neural organization. The article emphasizes the strategies children use in developing language. In comparing children who acquired their first language later in life to children learning their second language, the article shows the need for possessing skills in a first language to assist in processing learning a second language.

- Harris, M. (2010). Early communication in sign and speech. In M. Marschark & P. E. Spencer (Eds.), *Oxford handbook of deaf studies, language, and education* (pp. 316-330). New York: Oxford University Press.

This article discusses different characteristics of successful communication strategies between deaf children and hearing children. The article can be separated into four sections: 1) common origins of languages communication, 2) review of development of ASL, 3) review of the development of spoken language, and 4) practical application to areas such as specific language impairments in deaf children and the impact of newborn hearing screening and early cochlear implantation on development of language.

- Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experiences of young American children*. Baltimore: Paul H. Brookes Publishing Co.

The authors utilized a longitudinal study of parent-child interactions at home. Results showed that parental interactions with their child during the first three years of life provides a critical foundation to building language, cognition, and literacy. Results suggest that later compensation for these missed interactions early on is nearly impossible.

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- Joint Committee on Infant Hearing (JCIH). (April, 2013). Supplement to the JCIH 2007 Position Statement: Principles and guidelines for early intervention following confirmation that a child is deaf or hard of hearing. *PEDIATRICS*, 131(4). Available from: JCIH 2007 <http://pediatrics.aappublications.org/content/early/2013/03/18/peds.2013-0008.full.pdf+html>

This document provides comprehensive practice guidelines for early hearing detection and intervention (EHDI) programs on establishing strong early intervention (EI) systems to meet the needs of children who are deaf or hard of hearing. It stresses the importance of prompt, individualized, targeted and high quality intervention utilizing service providers with optimal knowledge and skill levels. The document provides 12 practice goals and other associated guidelines and benchmarks for EI systems and programs.

- Meadow-Orlans, K. P., Spencer, P. E., Koester, L. S., & Steinberg, A. C. (2004). Implications for intervention with infants and families. In K. P. Meadow-Orlans, P. E. Spencer, & L. S. Koester (Eds.), *The world of deaf infants* (pp. 218-228). New York: Oxford University Press.

This article summarizes the research pertaining to early intervention presented in the book *The World of Deaf Infants*. It provides suggestions for parents on how to increase their child's visual performance and modify their interactive style to match the needs of their deaf child.

- Visual Language and Visual Learning Science of Learning Center. (2011, January). *Advantages of early visual language* (Research Brief No. 2). Washington, DC: Sharon Baker.

This article discusses the importance of teaching language and/or providing early intervention services to a deaf or hard of hearing child during the "critical period" of language acquisition. Early language acquisition further aids the child's ability for reading comprehension, and spoken language development. A strong language system within the home and maternal sign skills are a positive predictor of a child's language development later in life.

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