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Early and Complete Language Access Prevents Detrimental Effects to a Deaf Person’s Life

Deaf children often face social isolation, lack of close relationships with their biological family, delayed cognitive development, and misdiagnosis of mental illness. All of this is preventable, however, provided the children receive full access to a language early in life. Despite what you may have heard, sign language does not prevent a deaf person from learning English, nor does it lead to isolation. In fact, quite the opposite is true. If a deaf child is given access to a visual mode of communication from a young age, they have a language that is fully accessible to them. They can fully express themselves and have total access to information and the environment around them. Without a signed language, even with the addition of hearing devices such as hearing-aids and cochlear implants, a child who is deaf will miss out on many of the experiences that are critical to a normal development. They will also likely suffer from improper attachment to parents and family since they cannot easily communicate with them or express their needs and emotions clearly. This can lead to frustration, bottling up emotions, feelings of isolation, loneliness, and even thoughts of suicide. Since they cannot obtain a spoken language through natural means, they will suffer from language delay which has serious implications on their brain development and future success in life. Rare cases in which cochlear implants provide a child with sufficient access to sound will still require many hours of dedication and often frustration in rehabilitation learning to make sense of what they hear. The solution is early and complete access to a language. If a deaf child has enough residual hearing left to properly learn a spoken language this is a fine solution. This is very rare though and it is likely that only a visual language will be completely accessible for proper acquisition and brain development. Whatever language you choose, the evidence is clear that early and sufficient access is critical. This paper will investigate the options for language access for deaf Children.

Necessity of Early Access to Language

Though the exact age range is still under debate, the research says clearly that there is a critical period for developing a first language and if this crucial period is missed there will be serious consequences. Berk’s study says, “Some of the current proposals have the diminishing window of opportunity beginning earlier and some later, than the age of four years as hypothesized by Lenneberg (1967). Current hypotheses (Neville, et al., 1992) are that the sensitive period ends earlier for acquiring particular aspects of language, and that effects can be seen if children have not been exposed to their first language, until ages 3 years to 13 years. Krashen (1973) suggested that if children are not exposed to a language before the age of 5 years, sensitive period effects can be seen in that these children will not fully acquire a language. Using event-related brain potentials (ERPs), Weber-Fox and Neville (1999) found potential sensitive period effects when children were not exposed to an accessible first language by the age of 7 years” (Berk 16). So as you can see there are many different hypotheses on what the sensitive period is. However, in my study it seems that most researchers agree that the critical period of acquiring a full and proper language is below the age of five and negative consequences will take effect if there is not proper language exposure before the age of four.

In Addition to the time constraint, the developmental process of acquiring a first language also requires rich and fluent language input which one can only receive if they have the ability to fully hear or see the language being provided. As Glickman and Crump write, “The most well-known and common reason that deaf people may be sign language dysfluent is due to inadequate exposure to signed language during childhood. The problems deaf children have acquiring spoken language is well known, but without adequate exposure to sign language, they can lack native skills in any language, signed or spoken” (Crump 111). Deaf children who are born deaf are already at a disadvantage to acquiring language early since they do not receive the language input that begins for a normally hearing child in the last three months of pregnancy. Once born, if their parents are hearing, they are delayed even further because they will have to be diagnosed as deaf and then will likely have no language access until the parents come to a decision on what mode of communication they will use. The consequences of this delay in language will result in negative effects that will be permanent if continued to the age of four.

In Glickman’s research he provides many examples for language errors among deaf individuals which he states were attributed mainly to language deprivation. “These common errors were: 1. Impoverished vocabulary with many signs used incorrectly… 2. Inability to sequence events in time. This often includes a lack of signs and grammatical structures to indicate tense. These persons seem unable to tell any story, using a beginning, middle and end, much less the story of their own life… This deficiency also makes it difficult for them to see cause and effect or to use conditional phrasing (if this, then that.) 3. Spatial disorganization. Inability to use the space around the signer grammatically… 4. Syntax. The topic-comment structure of much ASL is missing. Subjects are not established clearly. Nor are they related appropriately to verbs and objects. Pronouns (like an index finger to establish a person) may be used without any referent… [and] 5. Mixture of gesture and pantomime with sign. Because their vocabulary is so poor, these persons make frequent use of gesture and pantomime… these persons have no alternative but to act things out” (Crump 112-113). Glickman’s study continues and shows how language errors in deaf people leave them vulnerable to misdiagnosis. From his words, “Deaf children struggling with attention and behavioral problems may be diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), but a deaf child without adequate language is highly likely to show problems with attention and behavior and is therefore vulnerable to misdiagnosis” (Crump 109). He continues saying, “Deaf children may also get diagnosed with learning disabilities, but a deaf child without adequate language is highly likely to have difficulty learning. There may or may not be a neurologically based learning disorder, and in the absence of appropriate language input, this may be impossible to determine” (Crump 109). Later in their work, Glickman and Crump tell how mental illnesses such as schizophrenia have been diagnosed in deaf that could very likely have been due to language errors from inadequate language exposure. Since thought disorders are often diagnosed based on one’s atypical production of language and social interaction, deaf people with language dysfluency may appear to have psychosis when in fact there is no mental illness present (Crump 111).

The language dysfluency that many deaf possess can easily lead to social isolation, frustration with not being able to express oneself clearly and relate to others, depression, and in extreme cases suicidal ideation. There are also many studies, which this paper will not touch on, showing how language deprivation causes permanent damage to the brain.

Factors of Language Deprivation for Deaf Children

The sad reality of language deprivation is quite common among the deaf population. One of the many reasons for this issue in the Deaf community may be due to late diagnosis of deafness which leads to lack of early language input. Medicine has come a long way in diagnosing hearing loss. According to the National Technical Research Center (NTRC), “Every state and territory in the United States has now established an Early Hearing Detection and Intervention (EHDI) program. The EHDI program staff are responsible for creating, operating, and continuously improving a system of services which assures that: Every child born with a permanent hearing loss is identified before three months of age” (State by State EHDI). Since parents are becoming aware of their child’s condition earlier on, this has thankfully reduced the length of language input delay. Unfortunately, the majority of deaf children today still suffer from language delay and deprivation. There are many factors as to why children who are born deaf may lack early language exposure and suffer from inadequate language acquisition. One reason is simply the inability to hear language around them that a normally hearing person would begin to hear in the last three months of pregnancy. This lessens the amount of incidental learning they receive by a great deal. King discusses this fact and points out in his article “Incidental Learning & The Deaf Child”, that the bulk of learning for children happens outside of the classroom. He states how important this incidental learning is for the development of social and cognitive skills as well as for self-esteem. Since deaf children do not have access to this type of learning, one solution suggested by King is visual communication in the home. He also explains, “Another solution is to provide the deaf child with an educational environment that offers a variety of peer contacts and adults who know and use appropriate communication modes, including use in and out of class of captioned films, videophones, and other visual technological advancements. While these positives will not cover the full range of missing elements in the access of incidental learning, they will go a long way in assisting the deaf child during his/her early, crucial years to build the foundations upon which he/she can further their education.” (King *Incidental learning & the deaf child*).

Misinformation that leads to fear of sign language, is another factor as to why deaf children lack early exposure to language. There is a false narrative that has been spread for decades that learning ASL will make a deaf child lazy and hinder their ability to learn English and how to speak. Although this narrative been proven wrong many times the idea has continued to be spread, often by medical professionals. Another false idea told to parents by medical professionals is that hearing aids or a cochlear implant(s) will make your child “normal”, just like the average hearing child. This is not an accurate view and the decision should be considered on a case-by-case basis.

If parents can filter through all the misinformation and make an informed choice to implement signed language with their child, there are still a lot of problems that may continue to lead to language deprivation. Two huge factors are the parents’ inadequate language skills and the child’s inadequate exposure to native signing. Often parents are unwilling to take the time to learn a whole new language late in life when they are already so busy. When parents decide to learn signed language, their skills are often lacking due to the difficulty of learning a new language late in life. Outside of the immediate family, it is highly unlikely that their extended family and community around them will learn signed language to accommodate them. This means that the only access deaf children have to language is through an interpreter or family members who sign. A solution to this, besides encouraging your community to learn sign language, is to provide a sign language rich environment by enrolling them in a deaf school and providing them with access to the Deaf community through clubs and gatherings. There are also Deaf advocates, which are Deaf individuals, who will come into the home to work with parents and child. Unfortunately, parents may face difficulty finding a Deaf community nearby or complications with enrolling their child in a school for the deaf.

Language/Communication Options for Deaf Children

Now that we know how common language deprivation is and the factors that play into that; what can be done? What language is the best option for a deaf child to receive proper language input? Is spoken language possible?

Spoken language as the only option for deaf children is rarely successful. If a child was born profoundly deaf it is unlikely they will be able to learn how to form syllables to make words, and lipreading to understand others will be nearly impossible.

You may have heard that a cochlear implant will solve this problem and will make a deaf person hearing allowing spoken language to be possible. This information is not completely accurate. In certain circumstances a cochlear implant is a great option for enhancing a deaf person’s life. If all is successful, they may be able to hear things well enough to have spoken conversations and get along in society as a normally hearing person would. However, this is not always the case and there are many possible issues that must be considered before deciding whether to implant. According to the Mayo Clinic, things that impact the effectiveness of a cochlear implant include age that hearing loss occurred and the length of time between hearing loss and the implant surgery. The possible risks associated with the surgery listed by the Mayo Clinic are as follows: “Loss of residual hearing. In some people, implantation of the device can cause a loss of any remaining, unclear, natural hearing in the implanted ear. Inflammation of the membranes surrounding the brain and spinal cord (meningitis). Meningitis can occur after cochlear implant surgery… [and] Failure of device. Surgery may sometimes be needed to repair or replace a faulty internal device.” (Mayo Clinic Staff *Cochlear implants*). They also give a list of these possible complications, “Bleeding, Facial paralysis, Infection at the surgery site, Device infection, Balance problems, Dizziness, Taste problems, New or worsened ear noise (tinnitus), [and/or] Spinal fluid leak.” (Mayo Clinic Staff *Cochlear implants*). Moreover, there are many differing opinions on Cochlear implants and whether they are the best option or not. The medical community will likely push for the cochlear implant as a method of restoring hearing and may even spread the false idea that technology has done away with the “problem” of deafness all together. The bitter truth is, if surgery is successful in restoring hearing, having an artificial cochlea does not produce sound the same way that a natural cochlea would. Though you may see the heartwarming stories and videos of deaf people hearing for the first time, this can be a very scary experience for many. Try to imagine living in a world where everything is silent and peaceful, your visual senses are enhanced, and you take in all the beauties of the world through your eyes. Then, suddenly noise is everywhere! Mechanical, unfamiliar sounds all around you that you cannot get away from. That random buzzing of machines in the room, a squeaky chair, overlapping voices, traffic outside, a fly buzzing beside you. All this noise can be quite frightening and annoying to some, and they may decide they prefer their peaceful life of silence. Others may long to hear the simple beauties of the everyday hubbub. I have personally spoken with Deaf people who have removed their implants and wish they never had them in the first place, those who wish they could have them, those who love the cochlear implants they have, and those who will never get an implant and are strongly against them. The latter opinion is the view of most culturally Deaf people since they feel the invasive procedure is inhumane or a threat to their rich culture. You may want to consider the ostracism a child with a cochlear implant could face both from the Deaf who hold the aforementioned opinion and from hearing children who notice that they are different.

Those who benefit from a cochlear implant are often able to utilize it for safety purposes, to enjoy music, the sound of their loved one’s voices and more. However, once the implant is successful there is a necessary rehabilitation process to learn how to make sense of all this new input. If you were not late deafened you are now forming new pathways, learning to assign sounds to their meaning, and how to begin forming words for the first time and sound understandable. According to the Mayo Clinic, if you were deafened later and life and can remember what sounds are like, “Speech and everyday environmental noises will sound different from what you remember. Your brain needs time to recognize what these sounds mean. This process is ongoing and is best achieved by wearing the speech processor continuously during waking hours.” They suggest, “Regular, lifelong follow-up visits to check and program the device and to do auditory testing.” (Mayo Clinic Staff *Cochlear implants*). This takes a lot of hard work in speech training and time at the doctors which many kids detest.

With all this in mind, under the best circumstances, when a cochlear implant is successful and absent of side effects, the individual can still only hear when the implant is on and working and this cannot happen during water activities, sleeping or if the machinery is lost or damaged. In other words, the individual is still deaf and can only access hearing when using this special tool. Young children are also prone to losing their devices, breaking them, or just don’t like having them on. How will they communicate in these situations?

You may now be wondering, if a cochlear implant is not a viable option and one is unable to access spoken language through hearing it, then what is the best solution for language input? Some might think lipreading is the next best thing since it seems to be the closest thing to hearing and communicating with an English-speaking majority. However, with lipreading no one can understand 100% of what is being said, rather 80% of lipreading is guess work. There must also be specific conditions such as a clear and uninterrupted view of the mouth, and there is still the issue of how the deaf person will then express themselves. Systems such as cued speech to add signs to differentiate between phonics that look the same on the mouth can help. Unfortunately, cued speech is not a reliable form of communication on its own and must be used in addition to other methods such as auditory training and lipreading to help a child learn to make out sounds and words in spoken language. It is not popularly used in the community however, and there will be little opportunity for an individual to use cuing. This may be a good option to enhance a deaf child’s life, but it will not be satisfactory for language by itself. Donna Jo Napoli, PHD, and Theresa Handley comment that, “Various combinations of speech, gestures, and rudimentary signing can help in family communication, and such systems often have some structural similarities to natural language. However, these systems are no substitute for bona fide language, nor do they allow the child to communicate with others outside the family” (Napoli et al. *Should all deaf children learn sign language?*).

It seems then if the above options fail that signed language is the only option left. Many people see signed language this way and only turn to it as a last resort. I hope that this paper will give you a different perspective.

Signed languages have been proven to have all the fundamental linguistic elements that spoken language does and they are as effective in conveying both complex and abstract content (Krammer *The benefits of sign language for deaf children with and without cochlear implant(s)).* Krammer shows, in her article, that signed languages are a beneficial option for deaf children with and without cochlear implants. She debunks the myth that sign languages hinder spoken language development and proves that sign languages are a good option to provide a child with normal development (Krammer *The benefits of sign language for deaf children with and without cochlear implant(s)).* She also shows how sign language is a good “insurance” measure for deaf children since there are problems with cochlear implants and not all implanted children will be able to communicate through spoken language exclusively due to inability to articulate or inability to make out language through background noise etc. (Krammer *The benefits of sign language for deaf children with and without cochlear implant(s)).* Furthermore, “Deaf and hard of hearing children who acquire ASL [American Sign Language] at a young age perform better academically, understand more English, and often have better skills for organizing, maintaining attention, and inhibiting impulses” (Easton).

Research shows that there are many benefits of providing sign language to deaf children at a young age and no perceivable negatives. The fears that people have of sign language causing deaf children to struggle in learning English have been proven wrong and in fact, having sign language as a base language has shown to help children be more successful in English skill development. Isolation is another concern that some have but on the contrary, providing your child with signed languages opens the door to a language rich culture full of people like them. One possible con that I can provide is that sign languages, such as American Sign Language, use fingerspelling for some words, and this may be difficult for young children to learn. However, once children develop their motor skills enough to produce the more difficult handshapes used for some of the manual alphabet, and their brain is more developed and ready to learn spelling, this potential barrier is no longer an issue. Physical disabilities may be another consideration since many deaf people also have other disabilities that can hinder their movement or hand configuration.

Now that we’ve determined that signed language is a viable, successful, and all-around beneficial option. Is there only one universal sign language? Though this is a common misconception, there are actually many different signed languages typically corresponding to the country or region you live in. For example, there is British Sign Language, BSL, El Salvador Sign Language, ELP, and American Sign Language, ASL. ASL is the most widely used sign language as it is used in most parts of America and Canada. There is also a method of signed communication called manual coded English which includes things like Pidgin Signed English (PSE) and Signing Exact English (SEE). These are not languages by their own accord but are signed representations of English. Some of these were created by hearing people or by deaf people who believed that ASL was an inferior language. The goal was to make it easier for native English speakers to learn and use signed language and for deaf people to conform to the English-speaking majority more easily. Though many culturally Deaf look down on manual coded English systems and prefer their beautiful and complex language, ASL, there are many Deaf people who use ASL mixed with English. Signing Exact English that includes lexicalized symbols for articles such as “is, am, are” are time consuming and rarely ever used among deaf people. On the other hand, using ASL signs in English word order is something many hearing parents do when signing with their deaf children and a lot of Deaf people have picked up. Though it does not follow the grammatical rules and syntax of ASL, and your child will likely benefit from proper ASL training, this is still a much better alternative than no language or an oral language that your child cannot access.

There is also the option to combine methods in something called the Total Communication method. “Total Communication (TC) is a philosophy that promotes the simultaneous use of multiple modalities (e.g., signs, gestures, speechreading, hearing) for the understanding of communication… In the ideal TC environment, families (and EI personnel) would use signed English (MCE) accompanied by clear and visible speech at a normally loud conversational voice level. The infant or young children would use aided residual hearing and the visual cues available from signs and lipreading for receptive communication. The child is encouraged to use both signs and speech to communicate expressively” (Gravel *Communication Options for Children with Hearing Loss).* Yet another option, if you desire the benefits of both hearing and Deaf cultures, is the Bi-lingual Bi-cultural approach, or the Bi-Bi method. “The bilingual-bicultural (Bi-Bi) philosophy (National Association of the Deaf: www.nad.org) advocates that children who are deaf be able to communicate in two languages (visual and a form of spoken) allowing them to experience two cultures (Deaf and hearing communities). The Bi-Bi philosophy holds that children who are deaf are inherently members of the Deaf community. The Bi-Bi approach supports early language learning through ASL with a form of spoken English taught as a second language later in elementary school” (Gravel *Communication Options for Children with Hearing Loss).*

Whatever method of communication you choose, evidenced by research, Gravel and her co-worker agree, “no one single communication option is optimal for infants and young children with hearing loss. Multiple factors impact on the family’s decision, particularly in the early months following confirmation of hearing loss. Rather than a specific method, early identification of congenital hearing loss followed by language-based early intervention results in expressive and receptive communication abilities that are superior to those of children later identified” (Gravel *Communication Options for Children with Hearing Loss).*

In conclusion, regardless of the form of language used, the most important thing is to give your child access to language as soon as possible in the critical period of development. Without exposure to some form of language that is fully accessible to them, there will be negative consequences such as language deprivation, delays in development, social isolation, and permanent damage to the brain. If the child can hear well enough with sound amplification to learn and use a spoken language than that will be satisfactory for their development. However, if the child cannot hear enough, and when they are unable to use hearing enhancement, they will need another form of language, a manual language. From the research, it seems that some sort of sign language is necessary for deaf children to have full access to language at the critical period in life in order to avoid consequences to their development.

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This resource is a review on multiple case studies that looked at language acquisition in deaf people in order to determine if there is a sensitive period for first language acquisition. Looking at both people who had early language exposure and those who were adult late-learners it is determined that there is a sensitive period. This sensitive period for language acquisition helps my case for the importance of early language exposure for deaf children.

Crump, C. & Glickman, N. (2013). Sign language dysfluency in some Deaf persons: Implications for interpreters and clinicians working in mental health settings. In N. S. Glickman (Eds.). *Deaf mental health care*. (pp. 107-137). Routledge.

This chapter is a deep dive into language dysfluency among Deaf individuals, including mental health related and non-mental health related causes such as language deprivation, strategies for interpreting language dysfluency, and using demand control schema in interpreter decision-making in mental health settings. This will help my paper because it explains that language deprivation is the main cause for language mistakes in Deaf people which can lead to difficulties in diagnosing mental illness that is related to language mistakes or odd use of language as well as leading to lots of misdiagnosed deaf people who may not have a mental illness but rather did not have proper language exposure.

“Cued speech.” Merriam-Webster.com Dictionary, Merriam-Webster, https://www.merriam-webster.com/dictionary/cued%20speech. Accessed 7 Dec. 2022.

This is a definition of “Cued Speech” from Merriam-Webster’s dictionary.

Easton, Linda. “Why Deaf Children Need ASL.” *American Society for Deaf Children*, 6 Feb. 2021, https://deafchildren.org/2019/02/why-deaf-children-need-asl/.

This short article lists and explains some of the benefits of teaching American Sign Language to Deaf Children.

Gravel, Judith S., and Jessica O'Gara. "Communication Options for Children with Hearing Loss."*Mental Retardation and Developmental Disabilities Research Reviews*, vol. 9, no. 4, 2003, pp. 243-251.

This article stresses the need for early language development despite which mode of communication is being used. It provides different options for language modes for deaf and hard of hearing children as well as what factors influence a family’s decision on what mode to choose.

King, J Freeman. “Incidental Learning & the Deaf Child.” *Special Needs Resource*, 12 June  2017,  [http://www.eparent.com/features-3/incidental-learning-deaf-child/#:~:text=Incidental%20learning%20might%20be%20defined,social%20development%20and%20world%20knowledge](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Flinkprotect.cudasvc.com%2Furl%3Fa%3Dhttp%253a%252f%252fwww.eparent.com%252ffeatures-3%252fincidental-learning-deaf-child%252f%2523%253a~%253atext%253dIncidental%252520learning%252520might%252520be%252520defined%252csocial%252520development%252520and%252520world%252520knowledge%26c%3DE%2C1%2C5U0rhecs0Ckj8Ekc-qffZjiBeXeOR__dbrgXISwtFTjeZSImnmnN1uqJ39inYYC_s27CTqg_rvgTdD7NiFNLrkZam_mDtriVR69o6mU022IpqL0%2C%26typo%3D1&data=05%7C01%7Chklapp%40gardner-webb.edu%7C19d8e0a582d442867ba808dad7e66a85%7Cb75d79c569584457972cfe8241c63355%7C0%7C0%7C638059682585430452%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C2000%7C%7C%7C&sdata=9Lgbz43uAB4KNxWYKlCRSBBSM3llgnY3jD%2B6oiEhqkc%3D&reserved=0).

This article talks about the importance of incidental learning and how incidental learning happens for normally hearing children. It also discusses the fact that Deaf children do not have access to the same incidental learning and some possible solutions for this.

Krammer, Klaudia. (2013). The benefits of sign language for deaf children with and without cochlear implant(s). European Scientific Journal. Volume 4. 341-349.

This article shows the many benefits to providing access to a visual language for deaf children. It shows how American Sign Language is a true linguistic language that has all the elements that spoken language does and how it can be used to provide normal development for deaf children.

Mayo Clinic Staff. “Cochlear Implants.” *Mayo Clinic*, Mayo Foundation for Medical Education and Research, 10 May 2022, [https://www.mayoclinic.org/tests-procedures/cochlear-implants/about/pac-20385021#:~:text=Factors%20that%20can%20affect%20the,born%20with%20significant%20hearing%20loss](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Flinkprotect.cudasvc.com%2Furl%3Fa%3Dhttps%253a%252f%252fwww.mayoclinic.org%252ftests-procedures%252fcochlear-implants%252fabout%252fpac-20385021%2523%253a~%253atext%253dFactors%252520that%252520can%252520affect%252520the%252cborn%252520with%252520significant%252520hearing%252520loss%26c%3DE%2C1%2CWlojfuUc2xHo8VvEMlC3bW6MRLtx0dEHBMf2ZI-GnxAvQq3VEPmKnfgDXmO4zaURD5nqq6XCJeCMV8jVmKPuWHOUaFJVDPV308RW9fOmmbksIWN3Lw%2C%2C%26typo%3D1&data=05%7C01%7Chklapp%40gardner-webb.edu%7C96cd0249228b413713fc08dad7e8d351%7Cb75d79c569584457972cfe8241c63355%7C0%7C0%7C638059692340242356%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000%7C%7C%7C&sdata=odrAxw4qaKzGm%2BJQgWW5o9Jh7fzuGUTgxINa1rQ9LSM%3D&reserved=0).

In this text the Mayo Clinic gives an overview of what a cochlear implant is, what the surgery involves, how to prepare for the surgery, and the possible complications associated with it.

Napoli, Donna Jo, et al. “Should All Deaf Children Learn Sign Language?” *Pediatrics*, vol. 136, no. 1, 2015, pp. 170–176., [https://doi.org/10.1542/peds.2014-1632](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Flinkprotect.cudasvc.com%2Furl%3Fa%3Dhttps%253a%252f%252fdoi.org%252f10.1542%252fpeds.2014-1632%26c%3DE%2C1%2CQWCPXzJzcXZx1UAjOTm5xGEjfLQBUDFu6oBoVZwRDaZkGaII_8PmM_8zr-dtmct-4GYAYXa6CGiBeh1BiPL3UA15tdl-9mcsMR9VnO8uufgydgeyKu-PTuYXHXM%2C%26typo%3D1&data=05%7C01%7Chklapp%40gardner-webb.edu%7Cfeb7dd7c08b94464673508dad8b5e81a%7Cb75d79c569584457972cfe8241c63355%7C0%7C0%7C638060573175744129%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000%7C%7C%7C&sdata=nJV4Ua698okXeqlRufPX%2BTcLSpr6Awg%2FekM4X3lt5LA%3D&reserved=0).

This text shows that there are many benefits to learning signed language for deaf children. It debunks the myth that learning sign language can hinder one’s ability to learn spoken or written English. It also mentions how different systems of gesturing and speech can help aid in family communication but are no substitute for a bona fide language.

“State by State EHDI and Newborn Hearing Screening Information: NCHAM.” *State by State EHDI and Newborn Hearing Screening Information | NCHAM*, https://www.infanthearing.org/states\_home/index.html.

This is a website that contains information on Early Hearing Detection and Intervention in the United States.