

Volume 2: Simplified Sign Lexicon,
Descriptions, and Memory Aids

Simplified Signs

A Manual Sign-Communication
System for Special Populations



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Preface

Looking back, it is hard to believe just how dramatically most scholars' views about the nature of sign languages have changed in the course of my lifetime. When I was a child, one only very rarely saw Deaf persons communicating through signs in the various media. When I was in college and graduate school, professors of linguistics or psycholinguistics typically did not deem manual signing to be a topic worthy of focus in their lectures. And when the very occasional student would inquire and ask about the nature of the sign languages used by Deaf persons, the replies the students received often depicted signing as a collection of mostly pantomimic gestures loosely organized around a syntactic structure borrowed from the grammatical systems of society's spoken languages.

It is now widely accepted that the sign languages used by members of Deaf communities from around the world are full and genuine languages. This realization rests largely on studies of the structure, acquisition, and processing of sign languages. Examination of the structure of a number of sign languages has shown that they have rule-governed phonological, morphological, and grammatical systems, and that these systems are distinctly different from those of spoken languages. Sign languages also have been shown to have impressive expressive powers highly similar to those of spoken languages. More specifically, research has shown that sign languages can convey the same information from one fluent user to another at similar levels of accuracy and transmission rates as found for spoken languages. This recognition that sign languages are true languages constitutes one of the important intellectual achievements of the latter half of the twentieth century. Moreover, during this period, the systematic study of signed languages has moved from being a rather obscure, peripheral domain of linguistics and psycholinguistics to the point where scholars have advanced the view that sign language research now occupies a position on center stage in those fields.

The study of how sign languages are acquired by the children of Deaf parents has contributed to the acceptance of sign languages as full languages. Children, deaf or hearing, of signing Deaf parents typically acquire a sign language as their first language in much the same order or pattern as children in hearing families acquire a spoken language. Both groups of children start babbling about midway through their first year. For speech learners, their babbling is in the vocal modality, whereas for sign learners, babbling is in the manual modality. Around their first birthday, young children typically produce their first referential words or signs. That is, children begin to use words or signs to name or label new instances of a previously acquired concept. This early language milestone subsequently is followed by the acquisition of a core vocabulary regardless of language modality. In the latter half of their second year, most children acquiring either a signed or spoken language learn to combine signs or words. This ability to combine signs or words enables the children to convey a wide range of semantic relations in their utterances. Although there may be differences in the rates at which certain early language milestones are attained in speech and sign, the general pattern of language acquisition is highly similar across the two language modalities. This finding is often seen as indicating that the capacity for language acquisition in typically developing children operates independently of the language modality involved. The critical factor in language acquisition evidently is the mind of the learner, and not the modality of the language.

Although language modality does not appear to affect the course of language acquisition, it cannot be denied that the visual-gestural modality of signed languages contrasts markedly with the auditory-vocal modality of spoken languages. Largely because of this modality difference, various scholars have asked whether distinctly different parts of the brain would be responsible for the production and comprehension of signed as opposed to spoken languages. For many years, it was the study of aphasia, or loss of language, that provided most of the useful information about the location of language processing in the brain. The study of aphasia showed that if a person suffered a lesion in a particular area of the brain — perhaps as a result of a stroke — then there was often a characteristic loss of certain spoken language abilities. When fluent signers experienced lesions in the same general brain areas, it was found

that they typically experienced similar losses in their sign language skills as those that occurred in speaking individuals. Moreover, for both the signing and speaking participants in these studies, the lesions that caused their language losses were primarily localized in a limited region in their left hemispheres. Thus, it appears that for most language functions, closely related areas in the brains of signers and speakers are involved in the production and comprehension of language (whether that language is a signed or spoken one).

Much of the pioneering research on the structure and acquisition of sign languages was conducted on American Sign Language (ASL). France, however, played a critically important role historically both in the education of deaf students worldwide as well as in the emergence of ASL as a language. This is the case because the first public school in the world for deaf students, regardless of social class, was established in Paris in the 1700s. This school embraced the use of signs or manual communication in the education of its deaf pupils. In addition, some of the teachers from this school subsequently moved to other countries to establish schools for deaf students there. A gifted teacher from the school in Paris, Laurent Clerc, crossed the Atlantic in the early 1800s and played a key role in the establishment of the first school for deaf students in the United States. Because Clerc brought his cherished French Sign Language with him and used it in the development of a course of instruction for American deaf students, many of the signs of what would become ASL have their roots in French Sign Language.

Once scholars and language therapists no longer exclusively equated language with speech, there was increasing interest in exploring whether various groups or populations of non-speaking, albeit hearing, persons could learn to communicate through manual signs or other non-oral approaches. Beginning largely in the 1970s, many dozens of studies of the efficacy of sign-communication training were conducted with a wide range of participants. Among the non-speaking children included in these programs of sign communication were children identified with autism, Down syndrome, fragile X syndrome, cerebral palsy, acquired epileptic aphasia, and Angelman syndrome. Of particular interest to a number of investigators was whether signing might foster communication skills in non-speaking children with autism spectrum disorder (ASD). Historically, when children with ASD failed to acquire

useful speech by the age of five or six years, their prognosis was a very bleak one of lifelong institutionalization.

After sign-communication training programs were introduced to a wide range of non-speaking children, there was an initial flurry of highly positive reports claiming substantial success in establishing communication skills in these children for the first time. As more studies appeared, however, it became evident that not all children who participated in sign-communication intervention studies achieved the same level of success. Some of the children in these studies learned to comprehend and produce hundreds of signs, combined signs into multi-sign utterances, and developed some spoken language skills. At the other end of the outcome spectrum were children who learned to produce and understand only a few signs, and who failed to combine these signs into more complex utterances. This wide range in outcomes across individuals tempered the early enthusiasm for sign intervention programs. It also led certain investigators to wonder why teaching outcomes varied so widely across individual participants and programs. Regardless, from the many reports of positive outcomes, it became clear that sign-communication programs helped many children, who had previously failed to make progress in speech-only programs, learn to communicate effectively for the first time.

As many non-speaking children with ASD or an intellectual disability learned to communicate for the first time through manual signs, they typically showed corresponding improvements in other domains as well. The children were often reported as having many fewer tantrums, soiling incidents, and other unwanted outbursts. The children were also frequently described as showing increased motivation, reduced levels of frustration, as complying more often with caretaker requests, and making improvements in their academic skills. Apparently, establishing an effective avenue of communication between the non-speaking children and their teachers and caretakers through signs resulted in a wide range of social and educational benefits to all parties involved.

The wide range in sign-communication teaching outcomes across individual participants helped lead investigators to examine what factors might be influencing these outcomes. One important limitation in many sign language communication programs for children with ASD and for individuals with an intellectual disability was that these programs only

rarely involved very young children. A major reason for this situation is that the parents of these children frequently expressed their concern that if their children made progress in learning to sign, then they would never learn to speak. The parents seemed to have embraced the idea that signing was an alternative to be explored only when it became abundantly clear that their sons or daughters were not making even minimally adequate progress in acquiring spoken language skills. As a consequence, many young non-speaking children were deprived of an opportunity to learn to communicate effectively in their early formative years. And because of their often late start in learning to communicate through signs, many youngsters with ASD or an intellectual disability probably failed to achieve levels of communication ability that they would have attained if their training had commenced much earlier in their lives.

The parents' fears that if their children learned to sign then they would not learn to speak appear to be fundamentally misplaced. There is now substantial evidence that non-speaking children provided input consisting of signs together with speech often make progress in learning to understand and to produce language in both modalities. Furthermore, if this bimodal language input is begun early in development, then it is likely to be particularly helpful in facilitating communicative growth. Indeed, the view that has emerged in recent decades is that, rather than being harmful, language input in the visual-gestural modality (sign) often fosters development in the auditory-vocal modality (speech) as well.

Another limitation to the effectiveness of sign-communication programs for children with autism or an intellectual disability has been the lack of signing skills and usage among most institutional staff and family members. That is, it has often been the case that only the language or communication therapists working directly with non-speaking children were proficient signers and used signs to interact with the children. As a result, signs were typically used by only a small proportion of those persons with whom a non-speaking child would come into contact, and those contacts would frequently occur only in the room where the language therapy took place. If minimally verbal children and adults are going to acquire facility in signing, then they will need to use signs in an environment that is much more supportive

of sign usage and that includes many more staff and family members who sign.

A further reason for some non-speaking or minimally verbal children's difficulties in mastering many signs may be the fact that the signs themselves are not especially memorable. A number of studies have shown that children with ASD and children with an intellectual disability typically learn and remember highly iconic signs (signs with transparent meanings) much more easily than they do signs whose meanings are not as transparent or guessable. Another category of more readily learned signs are those considered highly "translucent"; translucency refers to the ease with which one can discern the relationship between the sign and what it stands for once the meaning of the sign has been provided. Unfortunately, signs that are highly transparent or translucent constitute only a minority of all the signs present in the sign languages used by Deaf persons. If a sign lexicon were to be developed that consisted of a much higher proportion of highly transparent or clearly translucent signs, then such a sign system would likely be more readily acquired by most non-speaking children (as well as by their parents and teachers).

Other characteristics of signs may also make them more readily acquired. Because children with cerebral palsy or autism frequently have motor problems or difficulties, signs that are more easily formed often are more readily learned and used. Among the problems that non-speaking children experience are producing signs with more than one sign movement, forming signs with certain complex handshapes or configurations, and making signs that do not involve contact with the signer's body or the signer's non-dominant hand or arm. If a sign-communication system were to be developed that avoided all or many of these areas of formational difficulty, then many non-speaking children might learn signs more quickly and with considerably less frustration. And, if such individuals are to acquire and use a system of sign communication, then care should be exercised in selecting a vocabulary of signs that is useful and relevant to the children in their environments. These signs are much more likely to be used and remembered.

In recent years, the use of manual signs to enhance the language and cognitive skills of the larger hearing population has been an exciting development in education. When iconic signs or representative gestures

are paired with foreign language vocabulary items, the foreign words so learned often are acquired more quickly and fade from memory much more slowly. Much as these iconic signs and gestures facilitate foreign language vocabulary acquisition, these same signs or gestures likely will assist children from economically disadvantaged families to significantly expand their English vocabulary knowledge. And, in light of the evidence that sign language learners often show elevated scores on tests of spatial cognition and mental rotation ability, contemporary educators should consider how signing might best be incorporated into classrooms to foster enhanced performance in these important skill areas.

Overall, the past half-century has witnessed important and dramatic changes with regard to the acceptance of sign languages and the use of sign-communication systems. Today, there is widespread acknowledgement among linguists and educators that the sign languages used by members of Deaf communities are full and genuine languages. As a consequence, many Deaf persons have a new-found pride in their sign languages. Furthermore, this acceptance of signed languages as true languages has helped spur efforts to record, document, and describe the sign languages that are used by different populations of Deaf persons throughout the world. The recognition that language is no longer equated solely with speech has also helped lead investigators to examine whether manual signs might be used to foster communication skills in many non-speaking or minimally verbal children. The results of a number of investigations conducted in the past several decades have shown that many such children can make great strides in acquiring communication skills when they participate in programs that use manual signs alone or manual signs in combination with speech. Clearly, the study of sign languages and of how signs may be used to foster communication skills already has benefited many people in a relatively short time. Finally, in the future, educators will need to examine how manual signs and the learning of a signed language will facilitate the educational growth of persons more generally.

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