

How Signing Helps Hearing Children Learn to Read Research Summary

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Although signs were originally developed to help the hearing-impaired communicate, it turns out they can also help hearing children learn to read. This report will summarize various research findings that have demonstrated how hearing children successfully learned to read or improve their reading skills with the use of signing and fingerspelling. The term "signing" also known as "sign language" refers to hand positions that represent entire words or phrases. The term "fingerspelling" refers to separate hand positions for each letter of the alphabet. Sign language is usually used to help teach sight words whereas fingerspelling is usually used to teach spelling and phonics.

The use of signs to help hearing children learn dates back to the 19th century when Thomas Hopkins Gallaudet, who pioneered education for the deaf in the United States, advocated using sign language and fingerspelling to help increase vocabulary and language development in hearing children (Daniels, 1996 Child Study Journal). In 1852 David Bartlett taught deaf children and their hearing siblings in a family school. He discovered that signing and fingerspelling not only helped the deaf children learn but it also helped their hearing siblings as well (Blackburn et. al. 1984). Other educators of the hearing impaired during the 19th century made similar observations and also recommended that signing be used to help teach reading, spelling and writing to hearing children (Hafer and Wilson, 1989). However, during the early part of the 20th century signing fell in disfavor and was not encouraged for use with the hearing impaired or, as it turns out, with hearing children. Not until the late 20th century was signing once again fully accepted and recognized as an independent language (Daniels, 1996 Child Study Journal).

The use of signing in the teaching of reading to hearing children began to appear once again in the literature in the mid 1970's and 1980's. Dr. McKay Vernon and others (1983) discovered that all normally hearing children with average or above intelligence who have non-speaking deaf parents (parents who expose their children to signing and fingerspelling) actually learn to read before they begin school. Many learn to read as a result of making the connection between manual letters and printed letters. "Not only do these children read but they also write; i.e., they use fingerspelling expressively" (P.173). Vernon felt that the implications of these observations "have tremendous generality for the teaching of reading to all children" (ibid.).

McKay Vernon and Joan D. Coley (1978) cited programs that use signing and fingerspelling to teach regular hearing children (who do not necessarily have deaf parents) how to read. These highly effective programs have been taking place in Maryland (Mrs. Peggy Denton, Waverly Elementary School) and West Virginia (Mrs. Jan Dubois, Rosemont Elementary School). Early unpublished appraisals of these programs show success. Vernon and Coley also stated that "Because signs are so vivid, dramatic and fascinating they may serve as a powerful motivating force in helping youngsters want to learn to read. For example, Sesame Street is capitalizing on the motivating nature of communicating through signs by having a deaf person, Linda Bove, added to the regular cast to teach children to 'read' and 'write' signs and to fingerspell" (p.300).

In 1977 Walker emphasized fingerspelling to teach reading to thirteen "incorrigible" junior high school boys whose reading ability ranged from the second to the fourth grade level. The boys achieved success and actually enjoyed their reading lessons (Blackburn et. al., 1984).

McKnight (1979) used the manual alphabet and signs from American sign language to help three primary school age children who had difficulty reading. She taught them how to fingerspell phonetic words and sign non phonetic sight words and inflections while saying the words aloud. McKnight taught the manual letters by sound rather than by name. She taught the children how to

sign each letter sound or phoneme including digraphs. The children were eventually able to figure out unknown words without outside help because of their ability to cue themselves with signs. McKnight reported, "It was easier to connect the visual letter to a manual sign, and then to a verbal sound, than it was to go directly to the verbal sound"(p.583). As time went on, the use of signing fell away as the children became more and more familiar with the words.

Fingerspelling and signing have also been used to help students with spelling words. An experimental project was set up that used the manual alphabet to help learning-disabled elementary school children improve their spelling words by fingerspelling each word while saying it aloud. The children learned to read and fingerspell most of their spelling words after only three "ten" minute instructional periods (Vernon et. al. 1980). Teague (Wilson, Teague, and Teague 1985) conducted a study with seven regular first grade students who were having difficulty learning to spell. At the time the students were selected, they spelled only 25% to 46% of their words correctly on spelling tests. When the students used both fingerspelling and sign language to learn their spelling words, their spelling test scores improved to a range of 56% to 90% words spelled correctly. The student's retention of the spelling words at the end of the study ranged from 60% to 90% words spelled correctly.

Dubois used manual communication to teach reading to visually impaired learning-disabled students. All students easily learned the vocabulary words they were given by fingerspelling or signing them. The students were able to figure out unknown words by fingerspelling them and reversals in reading Braille were reduced significantly (Blackburn, 1984).

In 1984 Blackburn and others (1984) conducted a case study of two learning-disabled fourteen year old boys. For the first several weeks the boys were taught the manual alphabet and a sign language vocabulary. Once the subjects were comfortable with signing, signs were introduced to reinforce the phonetic decoding of words using key word analysis. During the five month project both subjects made a great deal of progress in reading comprehension and vocabulary. "The boys regular reading teachers reported that signing was an extremely motivating form of reading instruction for both subjects and strongly recommended continuing the project "(P.27).

Carney and others (1985) described a successful lesson sequence that uses manual signs (American sign language) to teach sight words to reading disabled children. The lesson sequence was recommended for use with mildly handicapped children when conventional methods fail. Compared to other VAKT (visual-auditory-kinesthetic-tactile) approaches to reading, Carney and others felt that signing and saying words simultaneously increased the "imageability" of words. One child was quoted as saying "Now I can feel the words when I read them" (P.217).

Sensenig and others (1989) conducted a research study to find out if sign language (signing exact English) can help hearing trainable mentally handicapped students identify and retain sight words. The subjects were 8 males and 7 females, 15 to 19 years of age with IQ's that ranged from 30 to 50. The results of the study revealed "that subjects learning to read words with an accompanying sign identified and retained significantly more vocabulary than did students learning to read in a traditional manner" (P.121).

Koehler and Lloyd (1986) published a comprehensive report that reviewed many studies that showed the effectiveness of using fingerspelling and signs to teach reading. They cited studies conducted in Belgium, Portugal, Sweden, the United Kingdom and the United States. These studies showed how fingerspelling can help dyslexic children and illiterate adults in non-English speaking countries as well as English speaking countries. They also cited studies that showed how deficiencies in phonemic segmentation skills (isolating speech sounds) is a primary problem for children and adults experiencing reading and spelling difficulties. Of all approaches tried in teaching this skill, fingerspelling appears to be the most effective method. Fingerspelling can also help with writing problems such as "b" and "d" reversals. "Teachers remind students to look at their hand. The right-hand "b" sign laid on the paper shows the line and circle relationship" (p.5).

Koehler and Lloyd (1986) also cited a body of research on mnemonic instruction which supports the use of signs as an effective technique to teach sight words. "Gierut noted superior word retention for both learning disabled and regular students when signs were presented with printed words" (P.11).

Linda A. Good and others (1993/1994) have also reported that using signs is an effective way to teach reading including phonics to hearing children who have normal abilities but were unable to learn to read with the usual methods. Marilyn Daniels (1996, Sign Language Studies) reported how signs helped Kindergarten children increase their speaking vocabulary in addition to learning sight words, letters of the alphabet and phonetic sounds. One Kindergarten teacher found that "children having problems remembering letters/words or beginning sounds were often able to recall needed information once they saw the sign" (P.33).

In my article (Felzer, 1998) I describe how I began using signing, games and physical objects about fifteen years ago to teach reading to special education students - most of whom had down syndrome. At first I just used signing for the nonverbal students but my other students also wanted to participate so we all ended up signing together. I was amazed at how well the illustrative quality of signing helped all the students remember words. They did so well that I thought it would be a great idea to try the same techniques with general education students. So in the Fall of 1995 I teamed up with Ruth Nishida at Brooklyn Avenue School in East Los Angeles to use these techniques with her Kindergarten students - most of whom were English Language Learners. At the end of the school year Ruth evaluated her students with the Oral Gray reading Test and found that most of her students were reading at or above the beginning of first grade level. Ruth's students not only learned how to read simple sentences and stories with good comprehension but they were also very enthusiastic and proud of what they accomplished.

In the Spring of 2000 I took a leave of absence from my special education class in LA City Schools and tried the techniques with a Kindergarten class on the Cal Poly Pomona University campus. However this time I limited the number of sight words I taught to allow more time to teach the finger alphabet and finger spelling as a way to strengthen phonics skills. The Cal Poly Kindergarten students were soon reading simple sentences and stories as well as using finger spelling to help them blend sounds.

SUMMARY AND CONCLUSIONS

The studies reviewed in this report discuss how students of all ages including those with disabilities can benefit from signing and fingerspelling when learning to read. Signs can be used as a highly effective teaching tool for students who do not respond to traditional instructional methods as well as be part of a regular reading program for an entire class. A reading program that includes the use of signs has the added advantage of bringing a kinesthetic dimension to learning as well as making learning fun. Students enjoy the physical involvement that signing brings.

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