

ODYSSEY

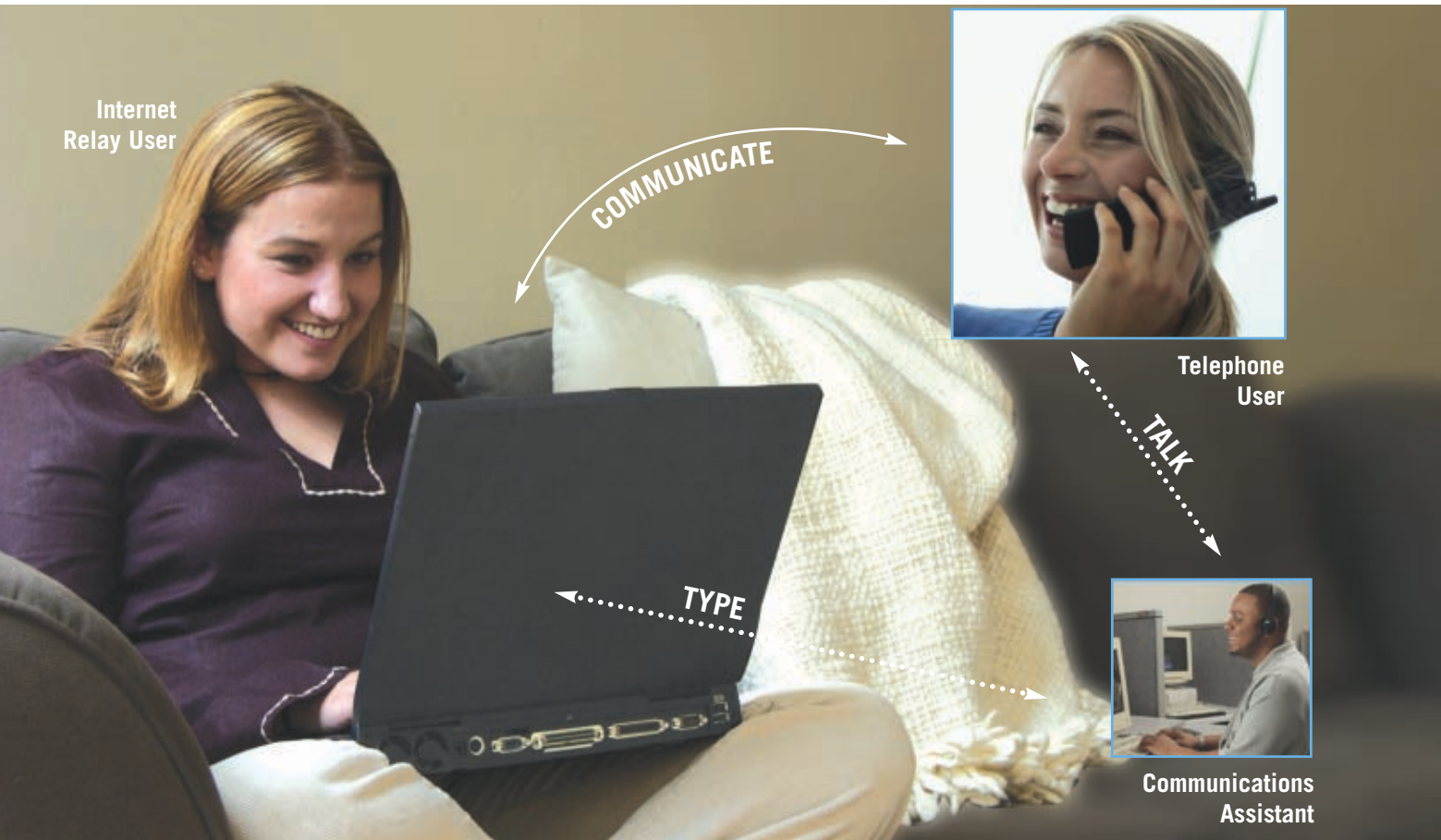
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NATIONAL DEAF
EDUCATION CENTER

FALL 2003

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Connecting deaf, hard-of-hearing and
speech-disabled people to their calling communities.



Cracking the Code Reading & Writing— And the Challenge of “How”

Since at least the Renaissance, deaf children have learned to read and write, banishing forever the myth that they could not be taught to decipher a code for language that was primarily aural. Today reading and writing are rich and vital everyday activities for many deaf adults who developed their skills through a wide variety of programs.



In this issue, *Odyssey* presents some of the philosophies, techniques, and innovative strategies that are used throughout the United States to enable deaf children to develop literacy skills. We are pleased that Dr. Jane Fernandes, the provost of Gallaudet University, was our guest editor and solicited these articles. The Clerc Center provides the variety of perspectives in response to a

recommendation from our National Mission Advisory Panel that we distribute information about literacy practices and in accordance with our national mission.

We divided the issue into thematic sections, each representing a potential key to literacy—through American Sign Language, cued speech, phonics, fingerspelling, and different learning strategies. Each section contains articles by dedicated and creative teachers and researchers who have worked actively with deaf and hard of hearing students to develop their literacy skills.

In addition, in the back of the issue we've printed a feedback form for readers. We would like your insights and opinions about the critical needs of deaf and hard of hearing children within our identified priorities of literacy, transition, and family involvement. Please take a moment to fill out and return this form. In doing so, you will help us continue to respond to the needs of educators and families of deaf and hard of hearing children whom we are mandated by Congress to serve.

Whatever one feels about any given method, the achievement of deaf adults demonstrates that literacy is not only an achievable and realistic goal for all deaf students, but a starting point from which the rest of education proceeds. At the Clerc Center, we remain committed to the highest standards of literacy for deaf and hard of hearing students throughout the United States.

—Katherine A. Jankowski, Ph.D., *Dean*
Laurent Clerc National Deaf Education Center
Gallaudet University

On the cover: Programs around the country explore various approaches to help students find a key to decoding English print. Collage by John Consoli.



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Clarification

A misleading statement appeared in *Odyssey's* Winter 2003 review, *Cochlear Implants in Children: Ethics and Choices*, by John B. Christiansen and Irene W. Leigh. The reviewer and the editor would like to clarify that while only one author has a cochlear implant, the other author is also deaf and both authors provided "an 'inside view' of the impact of the cochlear implant on the deaf community."

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ODYSSEY

LAURENT CLERC
NATIONAL DEAF
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In Search of Keys to English Print

By Jane K. Fernandes
Provost
Gallaudet University

Many researchers on language and literacy believe that the ability to decode the sounds of new words is a critical skill to develop for reading success. Without decoding skills, researchers say, a child will have enormous difficulty learning to read. According to this research, excellent phonics instruction is necessary but not sufficient for becoming a reader. To be a successful reader, students need an early phonics emphasis, but this foundation does not necessarily translate to increased reading comprehension. In addition to an early phonics emphasis, family literacy practices and effective school programs are key variables in developing successful readers. Taken collectively, the resources that schools, families, and teachers bring to the activity of reading impacts the child's emergence as a reader.

In deaf education, we have a strong research focus on family literacy strategies and school programs. The research on the role of phonics in reading has focused primarily on hearing children. Now many in the field of deaf education are wondering how this work applies to children who are deaf or hard of hearing. Do successful deaf readers develop a system of phonological awareness that enables them to decode words? If they do, when and how does it happen? If deaf readers don't develop phonological decoding skills, how do they learn to read? Is there research to help us understand how this process takes place in children who are deaf or hard of hearing?

In looking around the deaf community, I see many people of all ages and backgrounds who are skilled readers and writers. And while many of them possess what seems to be a phonological awareness of English, in fact a few do not present any evidence of such awareness. This high level of literacy development, in the apparent absence of phonological awareness in deaf individuals who are able to read and write well, is a linguistic conundrum, but it suggests that answers to how to better teach reading and writing can be found by looking into the general population of deaf people. Examining how this process works could ultimately lead to a new understanding of literacy, just as William C. Stokoe's work on linguistics of American Sign Language led to a new definition of language.

Several schools and programs for deaf and hard of hearing students in the United States have been looking hard at the relationship between phonological abilities and reading, including rhyming, the use of phonological decoding while reading, and the phonics abilities of good deaf readers. Findings suggest that deaf individuals from both oral and signing backgrounds acquire knowledge of the relationship between the pronunciation of a word and its written form and that this knowledge facilitates success in reading. It is exciting because several authors seem to suggest that Cued Speech can and should be employed as part of a bilingual approach to learning.

At the other end of the spectrum, some schools are using a variety of other learning

strategies. Among these strategies are ways to teach reading and writing that include a focus on American Sign Language and English without any reliance on sound. Findings from these programs suggest that their techniques also lead to the development of a solid foundation for reading success in deaf learners and confirm the work of Carol Padden and Claire Ramsey, who found that “the better readers in our study have made an alternate discovery in which they form association between elements of a signed language and elements of written language as they acquire the ability to read (Padden & Ramsey, 2000, p. 168).” These researchers posit that deaf children do not learn to read in the same way that hearing children do because the absence of hearing denies them an innate ability to associate what they hear with what is written and because the languages and communication modalities of deaf children do not always lend themselves to a linkage with printed English.

This special issue of *Odyssey* highlights a number of tools that some educators feel are important in helping deaf children to establish an internal system for understanding words they see printed on a page, to promote higher levels of literacy. That so many are looking into the same issue indicates that the field of deaf education, almost by consensus, is zeroing in on ways to boost the literacy levels of deaf and hard of hearing students. The picture presented is that of a vast national panoply of options to help children develop an inner system that supports their efforts to successfully read words that are unfamiliar to them and make meaningful sense of what they have read for their own purposes.

Many in our field are now promoting teaching and learning practices that support the use of tools or strategies to help provide a “key” that will open up English to the child. Several tools or strategies highlighted in this issue are based on ways to impart phonology to deaf children, including the use of

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phonics, signs, Cued Speech, and fingerspelling. In addition, other learning strategies that build pre-reading skills, such as memory and focusing, are presented. Some authors clearly believe that a visual representation of English is needed to build an inner system that connects with English phonology. Others clearly feel that text-based programs that promote high levels of literacy in American Sign Language will result in high levels of English over time. Still others are working with both. What remains to be seen, through evaluation and research, is which tools are most successful with which students and whether schools can match the method needed with the individual children they are responsible for teaching.

The keys—techniques and strategies incorporated into the programs described in this issue—seem to have helped some children make critical connections to written English and are emerging as an important part of deaf education in the United States. Are each of these keys a necessary component in a fully implemented school reading program or are they simply helpful tools for specific students who find themselves in a situation where many of the conditions needed to move readily into

literacy do not exist?

The array of techniques in use for teaching reading today is vast. But they may not be so far removed from one another as they seem. All capitalize on a tool for helping deaf and hard of hearing children connect their growing linguistic competence and world knowledge with English print. For example, in terms of what they intend to accomplish, the adapted Dolch word lists are in many ways like the American Sign Language gloss/print resource book developed by Sam Supalla and Laura Blackburn.

Each year, the reading and writing levels of new students entering Gallaudet University rise. The hard work of dedicated educators in elementary and secondary schools throughout the nation is clearly reflected in the increasingly qualified students who come here. In close partnership with Gallaudet University, the Laurent Clerc National Deaf Education Center is committed to fostering a national dialogue about reading and deaf children. As a field, we seem to be on the verge of making some real breakthroughs. The schools featured in this issue are at the cutting edge of work on reading and children who are deaf or hard of hearing. Research and evaluation on each type of tool featured here are critical and the sharing of that information widely is necessary. At the Clerc Center, we intend to monitor new developments closely in the field of teaching reading to deaf and hard of hearing children and share that information with you. This special issue of *Odyssey* is a first step in that direction.

Reference

Padden, C., & Ramsey, C. (2000). American Sign Language and reading ability in deaf children. In C. Chamberlain, J. Morford, & R. Mayberry (Eds.) *Language acquisition by eye*. (pp. 165-189). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

PHONOLOGICAL AWARENESS AND VOCABULARY ENHANCEMENT

experiment in preschool literacy

*By Paula J. Schwanenflugel, Stacey Neubarth-Pritchett, Jamilia Blake,
Claire Hamilton, and M. Adelaida Restrepo*

Photography by John Consoli

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Models: Nathalie Devigne, Claudelle Pulger, and their students.



Children who come to school without the language skills for learning to read tend to display lower initial reading achievement (Adams, 1990; Elardo, Bradley, & Caldwell, 1977; Hart & Risley, 1992; Ninio, 1980; Roberts, Burchinal, & Durham, 1999; Teale, 1986), and poor initial reading achievement tends to be highly stable over the elementary school years (Juel, 1988). Thus, interventions designed to minimize risk for early reading failure are needed to break this cycle.

PAVEd (Phonological Awareness and Vocabulary Enhancement) for Success, a prekindergarten literacy study funded by the U.S. Department of Education Early Childhood Professional Educator Development program, focuses on the use of research-based practices to improve the preliteracy skills of young children. Data from this intervention project for young hearing students may be helpful in determining what constitutes useful preliteracy practices and in structuring effective classrooms for 4-year-olds.

In this program, our activities are grounded in the premise that early reading achievement is highly dependent on word decoding skills. Models of word decoding indicate that decoding in skilled readers involves the efficient

activation of letter, phonemic, and semantic knowledge. Children who are inefficient decoders in early elementary school typically lack highly developed skills in one or more of these decoding components.

Early childhood educators do not agree with the assumption that explicit, formalized teaching aimed at pre-decoding skills should be carried out in prekindergarten to increase children's school readiness. For example, in the joint position statement of the International Reading Association and National Association for the Education of Young Children, Neuman, Copple, and Bredekamp (2000) describe the teaching of explicit phonemic awareness for children under age five as "highly suspect" (p.8). However, emergent phonological awareness for children under age five has considerable value for predicting future reading achievement (Lonigan, Burgess, & Anthony, 2000; MacLean, Bryant, & Bradley, 1987). Similarly, formalized explicit instruction of the alphabet is often counter-recommended for preschool (McGee & Richgels, 1989; Ruetzel, 1992; Wasik & Bond, 2001; Wuori, 1999), yet alphabet knowledge at age 4 and 5 is highly predictive of early reading skills (Johnston, 1998; Lomax & McGee, 1987; Riley, 1996; Walsh, Price, & Gillingham, 1988).

We believe that Universal Quality Literacy Practices, e.g., storybook reading, alphabet

knowledge, environmental print, and secure teacher-student relationships, are most important. We have worked hard to identify Experimental Quality Literacy Practices, developmentally appropriate ways to foster phonological awareness and vocabulary enhancement in 4-year-old students.

Universal Quality Literacy Practices

WIDELY APPRECIATED LITERACY PRACTICES—AND HOW THEY ARE APPLIED IN OUR CLASSROOMS

- **Environmental Print**—The use of environmental print for the development of preliteracy skills tends to be a universal element of most preschool settings. Environmental print is defined as the print that is all around us, including the print on commercial signs, labels, road signs, products, and displays (Morrow, 2001). Early exposure to and explanations of environmental print are necessary for children to begin conceptualizing the importance of the use of written language as a means to obtain information, to express their needs, to announce events, and to communicate with others (Schickedanz, 1999).

Limited research has highlighted the benefits of incorporating environmental print in classrooms. In one study, preschool children spontaneously used twice as much print in their play than they did prior to their teacher's inclusion of environmental print materials in the classroom (Neuman & Roskos, 1989). Additional research has indicated that preschool children engage in more literacy acts that become more complex over time and have increased language routines with the inclusion of environmental print in class (Morrow, 1990; Neuman & Roskos, 1992; Vukelich, 1991).

Preschool classrooms that are effective with their use of environmental print have specific characteristics. First, the environmental print materials are developmentally appropriate. Second, the materials are authentic (McGill-Franzen, Allington, Yokoi, & Brooks, 1999). For example, they include boxes or containers for the housekeeping area with authentic labels that children would recognize from their homes rather than the replicas from an early childhood toy company. Third, the environmental print materials have utility. If children cannot see their use, physically use them in their play, or have continuous access to them, they are unlikely to incorporate them into their play. Finally, children see adults or more capable peers engaged with the materials, giving them meaning.

- **Book Reading**—Reading storybooks aloud in a co-constructive manner to children is highly effective in promoting language and vocabulary development in preschoolers (Bus, van Ijzendoorn, & Pellegrini, 1995; Dickinson & Smith, 1994; McKeown & Beck, in press; Valdez-Menchaca, & Whitehurst, 1992; Wasik & Bond,





2001; Whitehurst et al., 1988). Co-constructive readings include questions and discussion about the book as the reading progresses. Difficulties with a co-constructive approach include teachers who have not implemented it readily (Lonigan & Whitehurst, 1998), adults who simply prefer reading straight through the text and not interrupting the flow of the story (Dickinson & Smith, 1994; Heath, 1983), and low verbal preschoolers who sometimes do not respond initially to the open-ended questioning (McKeown & Beck, in press). However, when children get used to this co-constructive style, classrooms are lively, participatory places that stimulate language growth.

In our intervention, each child engages in a minimum of three large group and three small group reading sessions per week. Teachers and their aide support children's engagement in the sessions using co-constructive reading approaches (Dickinson & Smith, 1994; Morrow, 1984; Whitehurst et al., 1994). Specifically, teachers begin reading by doing a "walk through the book," encouraging children to offer ideas about what the book is about and providing a goal for reading. During reading, teachers ask questions that reflect three different concerns:

- Competence questions that give students opportunities to practice skills they have already mastered, e.g., Can you find the (object) in the picture? Who said (phrase)?
- Abstract thinking questions that ask students to summarize, define, explain, judge, compare, predict, take another point of view, or solve problems, e.g., What is (character) thinking? What will happen next? How do you think (a character) feels? How are (two objects) different?

- Relate questions that link the text to the student's experiences, e.g., How is (character) the same as you? What would you do if you could (action)?

Teachers read the same book at least twice. Usually our teachers read a book once in a large group setting and then throughout the day in a small group setting. Typically, they will treat the small group reading as a center activity. A number of teachers have commented that children seem to become more focused on the books, more attentive and settled, and more interactive as the books are read two and three times. They now believe in this interactive and repeated way of reading books.

- **Alphabet knowledge**—Children's alphabet knowledge *before* formal reading instruction begins is one of the best predictors of later reading achievement (Bond & Dykstra, 1967; Lonigan et al., 2000). Alphabet knowledge consists of elements such as letter-shape recognition, letter-name knowledge, letter-sound knowledge, letter-writing ability, and letter fluency. Many researchers believe that letter knowledge forms a conceptual base that supports phonemic awareness instruction (Ball & Blachman, 1988, 1991; Fuchs et al., 2001; McBride-Chang, 1999; Treiman & Broderick, 1998; Treiman, Tincoff, Rodriguez, Mourazki, & Francis, 1998). Alphabet knowledge does not guarantee that a child will learn to read successfully, but the lack of it seems to guarantee that the child will not learn successfully.

Our teachers focus on upper and lower case letter names and sounds, emphasizing one or two per week. Based on a re-analysis we conducted of the Treiman et al. (1998) research, we have asked teachers to focus on easier letters first, *b, d, j, k, p, t, v, z*, then *a, c, e, g, i, o, u*, and then the difficult letters last, *f, l, m, n, r, s, x*, then *h, w, y, q*. Our teachers have readily adopted this ordering. Teachers use whatever means they like to teach the alphabet, as long as they do not focus unduly on neatness. Many of our teachers have children draw the to-be-learned letters into shaving cream smeared on a table or on dry erase boards. Other teachers also have a letter-of-the-week alphabet table for objects children bring from home that start with the letter. They connect the objects to print with a label written on an index card. Our teachers also have used alphabet books in their book-reading repertoire. Teachers connect their letter instruction to the functions of print at least some of the time, so an environmentally print-rich classroom is a key backdrop for alphabet instruction. Teachers collect children's writings as a curriculum-based assessment of alphabet knowledge.

- **Relationship Orientation to Literacy**—Children who have secure, positive relationships with parents and teachers have more adaptive social skills (Stein, Szumowski, Blondis, &

Roizen, 1995; Wolters, Brouwers, Moss, & Pizzo, 1994) and engage in sustained and elaborate verbal exchanges with their teachers (Howes & Hamilton, 1992). Sustained interactions promote better language skills and higher achievement (Birch & Ladd, 1997; Ladd, Birch, & Buhs, 1999; Pianta, 1997; Pianta & Steinberg, 1992; Whitebook, Howes, & Phillips, 1989). Despite the obvious importance of secure child-teacher relationships, research has suggested that individual attention to children in preschool classrooms is rare. Typically only 10 percent of teachers' time is spent with individual children (Layzer, 1993) and 81 percent of the time teachers do not even talk with children who are standing right next to them (Wilcox-Herzog & Kontos, 1998)! Thus, our intervention places emphasis on developing ways that teachers can foster the development of secure child-teacher relationships while also supporting children's linguistic development. We call this aspect of the intervention *Building Bridges*.

Building Bridges supports the formation of positive relationships between teachers and students by implementing a modification of Banking Time (Pianta, 1999) as part of their usual classroom processes. Teachers spend about five minutes with each child about three times per week in a small group setting (no more than five children). Children select the nature of the activity or the topic of conversation. Further, teachers use this time to elaborate on and expand their language interactions with children (Hart & Risley, 1995) while having a positive exchange of ideas.

Finding these precious minutes can be difficult. Our teachers have found that the best time to initiate these conversations is during breakfast and lunch. Others have developed Talking Centers where children come and chat in a space dedicated to conversations between teacher and children.

For children that use a language not spoken by the teacher or those who are minimally verbal, our teachers find that interacting nonverbally side by side, talking much as an adult might talk with a toddler (Tomasello & Farrar, 1986), works well. It is important to track these experiences to make sure that some children are not inadvertently overlooked.

Some of our teachers have commented that through these conversations they can better relate classroom activities to individual children. Moreover, they feel better prepared to talk with the children's parents at parent-teacher conference time.

Experimental Quality Instruction Practices PHILOSOPHIES AND STRATEGIES THAT WE ARE EVALUATING IN OUR CLASSROOMS

- **Developing Phonological Awareness**—Phonological awareness is defined as the awareness of, and ability to manipulate, the phonological segments in words at the phoneme, syllable, and rime level (Blachman, 1991; Treiman & Zukowski, 1991). Four-year-olds' abilities to detect rhymes (Wood & Terrell, 1998; Lonigan et al., 2000),

segment syllables (Badian, 1998; Duncan, Seymour, & Hill 1997), phonemes (Byrne & Fielding-Barnsley, 1991, 2000), and blend syllables and phonemes (Majsterek & Ellenwood, 1995) are predictive of later reading and decoding skills. Indeed, because word decoding requires the underlying ability to map a written letter or letter sequence onto phoneme knowledge, phonemic awareness is considered a key for early reading achievement.

Whether, how, and what to include in an explicit phonological awareness program for 4-year-olds is an issue. Some studies find benefits of programs that attempt to develop phonological awareness (Byrne & Fielding-Barnsley, 1991, 1993), while others do not (Goldstein, 1976). Teacher implementation tends to be less successful than that of their researcher counterparts (Byrne & Fielding-Barnsley, 1995; Whitehurst et al., 1994). Studies finding long-term preventative benefits of phonemic awareness training in children are ubiquitous (Ball & Blachman, 1991; Brady, Fowler, Stone, & Winbury, 1994; Fuchs et al., 2001; Foorman, Francis, Fletcher, Winikates, & Mehta, 1997; Lundberg, Frost, & Peterson, 1988; Schneider, Kuspert, Roth, Vise, & Marx, 1997; Torgesen & Davis, 1996).

We have implemented a phonological awareness program in a subset of classrooms to determine the value added by such programs when other universal quality literacy practices are followed. In these classrooms, teachers and aides have received training on how to use selected classroom activities from *Phonemic Awareness in Young Children: A Classroom Curriculum* by Adams, Foorman, Lundberg, and Beeler (1998). This program, designed for kindergarten and adapted for prekindergarten, seems effective in promoting phonological awareness in a game-like atmosphere (Lundberg et al., 1988; Schneider et al., 1997). Our own analysis of the preschool phonological awareness literature has led us to believe that some skills are more predictive of later reading achievement than others. Thus, we focused the program on activities that emphasize:

- rhyme detection,
- word and syllable segmentation,
- word-initial phoneme detection,
- syllable and phoneme blending in short words, and
- letter-sound correspondence.

Teachers spend approximately three to four weeks, at least three times per week, on each skill. Some teachers have children clap syllables for words shouted out by the teacher while lining up from recess. Others have them chant initial letter sounds for children's names or vocabulary words while cleaning up.

To supplement these activities, a computer-assisted phonological awareness instruction program, *Earobics* (Cognitive Concepts, 2000) is available. Teachers use the tracking system that comes with the program as a curriculum-based assessment of growth.

● **Vocabulary Enhancement**—We watched young readers decode a given word perfectly, but stumble and fail because they do not know what it means. When the child has difficulty retrieving the meaning of a given word, not only does comprehension suffer (Stahl, 1999; Snow et al., 1991) but also decoding skills (Schwanenflugel & Akin, 1994; Schwanenflugel & Noyes, 1996; McFalls, Schwanenflugel, & Stahl, 1996). The vocabulary learning processes appear largely the same between those who are deaf and those who are hearing (Lederberg, Prezbindowski, & Spencer, 2000; Lederberg & Spencer, 2001). Thus one way to promote reading readiness in both children who are deaf and children who are hearing is to ensure that they have the vocabulary to meet the demands of the reading task.

Vocabulary enhancement can be promoted by storybook reading using repeated readings (Swanborn & deGlopper, 1999; Elley, 1989; Jenkins, Stein, & Wysocki, 1984; Robbins & Ehri, 1994; Senechal, 1997; Stahl & Fairbanks, 1986), a co-constructive reading style (Dickinson & Smith, 1994), and explicit procedures that target new vocabulary before, during, and after readings (McKeown & Beck, in press; Wasik & Bond, 2001). We encourage teachers to read expository texts along with storybooks and alphabet books. Expository texts seem to promote the adoption of a co-constructive style in Head Start mothers (Pellegrini, Perlmutter, Galda, & Brody, 1990). Reading expository texts may ameliorate the difficulty many children face later when they encounter such texts again in elementary school (Duke & Kays, 1998; Caswell & Duke, 1998).

In our program, teachers target vocabulary words and themes in a program that builds on vocabulary practices recommended by Wasik and Bond (2001). It is unclear just how much “value-added” will be obtained from this explicit vocabulary focus given an otherwise linguistically rich classroom. Thus, it is considered an experimental component to the program and is implemented in only some of the classrooms so that its effects may be determined separately.

We include four key practices to enhance vocabulary:

- a novel name-nameless category activity,
- co-constructive, repeated book readings,
- semantic verification questions, and
- vocabulary-related extension activities.

The teacher finds two vocabulary-rich books (one expository) related to her theme for the week and selects 10 target words and other background words from these books that are also related to her theme. This may sound more difficult than it is. Our teachers have found complex vocabulary even in simple, well-known books such as *Big Red Barn* (Bunting, 1979).

The targeted vocabulary is introduced by using a *novel name-nameless category* presentation format. This format requires the teacher to present an unknown item among known items (Mervis & Bertrand, 1994) and query the children to guess which item represents the targeted vocabulary word. The teacher might present a picture of a *baby*, a *car*, and a *pasture* and ask the children to show her which one is the *pasture*. The presence of an unknown object among items that they know the name of encourages children to apply the new label

to the unknown word. This is practically a failure-free way of introducing new vocabulary, because children already have the strategy embedded in their current vocabulary learning routines. Following this, the teacher reads the books as she does for storybook reading, but focuses on the target vocabulary as it appears in the text and discusses how the word’s meaning relates to context. One teacher has her students raise their hand when they hear a target word or a finger if it is a word from a previous week during the readings. Teachers follow up with queries that target vocabulary such as choral semantic verification activities

(McKeown & Beck, in press), e.g., “A *pasture* is where we drive our cars—No!” and “A *pasture* has lots and lots of grass—Yeah!”

Then the teacher initiates activities in the exploratory centers, where 10 target vocabulary words are used and extended to real contexts. We encourage teachers to include in the centers activities that might be used as a curriculum-based assessment of vocabulary growth, such as *Vocabulary Bingo* (Stark, Giddan, & Meisel, 1968) or *Vocabulary Hopscotch* using pictures drawn from the Internet. Throughout the week, children are encouraged to “*get caught with the word*” and teachers note on a vocabulary word log spontaneous use of target words.

All of these preliteracy strategies are grounded in what research shows are effective practices for enhancing preliteracy skills. While we have worked exclusively with hearing children, we are confident that most of the practices are applicable to classrooms with deaf children, too.



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see that sound!

visual phonics

helps deaf and hard of hearing students develop reading skills

By Bettie Waddy-Smith and Vanessa Wilson

Reading is fundamental to the educational process, yet it is one of the most complex skills a student must master to ensure academic success. According to the National Reading Panel Report, a comprehensive reading program should include instruction in phonemic awareness, phonics, fluency, and text comprehension. While many students, both deaf and hearing, learn to read despite lack of access to all possibilities of literacy training, some students may benefit significantly from phonics as they develop reading skills.

There is much instruction for hearing students that incorporates a variety of multi-sensory approaches to improve reading, such as the Wilson Reading System, the Lindamood-Bell Programs, the Orton-Gillingham Program, Phono-Graphix, and Touch Phonics. See-the-Sound Visual Phonics is a system designed to meet the unique challenges of deaf students.



Visual Phonics, developed in 1982 by the International Communication Learning Institute, is a multisensory approach, using tactile, kinesthetic, visual, and auditory feedback to improve reading, writing, and speech skills in deaf students and other children and adults who do not learn readily from traditional reading approaches. Visual Phonics is used to

improve reading through the development of phonological awareness skills, writing through the development of spelling skills, and speech through the development of articulation/mouth movements.

Visual Phonics is a system of 45 hand cues and written symbols that help students make the connection between written and spoken language. Each hand cue is suggestive of how a sound is made. For example, the handshape for the /F/ sound is made by placing the four fingers on the thumb with the palm facing your mouth then quickly flicking the fingers upward off the thumb, representing movement of lips and teeth. Each sound has a written symbol and each written symbol is a visual representation of the hand shape and represents the same sound regardless of the spelling. For example the /F/ handshape and written symbol would be the same for the /FAH/ sound in both *phone* and *fish*. The handshapes and symbols help students make sense of the various spellings and reinforce the sound/symbol connection.

Right: Genie Chisholm, speech/language pathologist, uses Visual Phonics in a Kendall classroom. With Visual Phonics, deaf students can participate in phonological awareness activities and phonics instructions.

Photos by Goodman/Van Riper.



Using Visual Phonics

Visual Phonics can be easily integrated into any reading, speech, and language program. It is recommended, however, that the system be used within the context of a language-rich, print-rich environment in which multiple language experiences are provided.

Cued Speech and Visual Phonics: How Do They Differ?

Visual Phonics and Cued Speech are different in both structure and intent. In Cued Speech, sounds are represented by a combination of designated handshapes and positions in conjunction with mouth movements. As defined by the National Cued Speech Association (2000), Cued Speech is a sound-based visual communication system. In English, it requires eight handshapes in four different locations in combination with the natural mouth movements of speech, to visually differentiate the sounds of spoken language (<http://www.cuedspeech.org/>).

Visual Phonics differentiates each sound by representing it with a different handshape and movement that mimic how the

sound is produced. It is a tool to assist in decoding and producing the sounds in the English language. It was not designed to be used in conjunction with spoken conversation. The goal is to clarify the sound symbol relationship between spoken English and print.

Visual Phonics can be used with deaf students who use any communication methodology. It can be used as needed to help with pronunciation during speaking or decoding during reading. As the child internalizes the English sound/symbol code, use of Visual Phonics fades.

Visual Phonics allows deaf students to ask questions similar to those of their hearing peers.

The deaf student asks:	The hearing student asks:
What am I seeing?	What am I hearing?
What is my mouth doing?	What am I saying?
What is the Visual Phonics hand cue?	What is the sound?
What is the letter?	What is the letter?

Activities

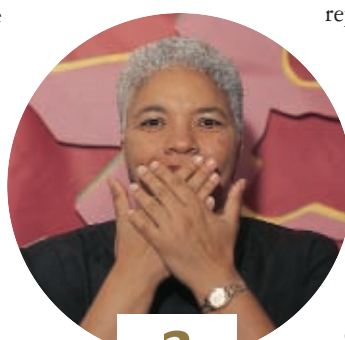
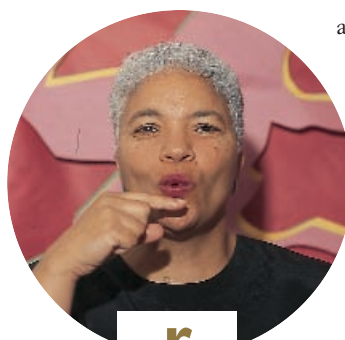
These activities enable the incorporation of Visual Phonics into traditional phonologic awareness activities:

- **Rhyming words**—When introducing rhyming words, present the words using Visual Phonics hand cues. With the hand cues, deaf students can see the similarity in how the words look, in the same way that hearing students hear the similarity in the words.
- **Phoneme counting**—Have students count phonemes by using the Visual Phonics hand cues to allow them to see how many phonemes are in a given word.
- **Oddity task**—When discriminating the beginning, ending, and medial sounds in words, use the Visual Phonics hand cues to permit deaf students to see which words begin or end with the same or different sounds and to identify what the specific sounds are.
- **Sequencing and segmenting sounds**—Present sounds in words via Visual Phonics hand cues to provide visual feedback and enhance the student's ability to sequence/segment the sounds in words.

Visual Phonics at the Clerc Center

At the Clerc Center, speech pathologists/communication specialists use Visual Phonics to develop and refine phonological and phonemic awareness in students from their earliest years through high school. The introduction of Visual Phonics while children are still infants occurs as a natural part of speechreading awareness and provides children with an early opportunity to associate what is seen on the lips with what is presented on the hand. Visual Phonics hand cues are presented in a natural way within the baby's visual field without calling direct attention to the hand.

Visual Phonics shows great promise in preparing elementary students to learn to read. Students make the connection between what they see on the lips, i.e., speechreading, what they say, i.e., speech production, and what they see in print, i.e., reading. The children quickly make the connections and begin to incorporate the system into their reading. Visual Phonics provides opportunities for analytical 'word work' that includes knowledge of rhyming, unique spellings, multiple word meanings, dictionary skills, and other skills that support reading. It appears to be helping students connect sounds, letters, and words with what they already know



about concepts learned through American Sign Language. It also reinforces concepts about English conveyed through text, fingerspelling, speech, listening, and speechreading.

The American Speech–Language–Hearing Association notes that poor readers have deficits in: phonological awareness, phonological memory, phonological retrieval, and phonological production. The speech/language pathologists at the Clerc Center have found that deaf students who have problems with the reading process have a similar profile. They have difficulty with: sequential memory for letters in words, sequential memory for words in sentences, decoding or encoding words, production of appropriate mouth movements, awareness of sound/symbol relationships, and speech production.

Support from Research

Research has shown that phonemic awareness increases the reading and spelling skills in preschoolers and kindergarten children (Yopp, 1992; Ball & Blachman, 1992). It is important for all children to acquire an understanding of how the English language is represented in print (Paul, 2000). For deaf students who do not have easy or complete access to spoken language, Visual Phonics provides access to phonological information that has been shown to be important in the reading process. By focusing on a visual representation of the sounds of spoken language, deaf students can “see the sound” in the same way hearing students “hear the sound.” This gives the deaf students the opportunity to play with representations of sounds and internalize them. While the hearing students do this auditorily, Visual Phonics enables deaf students to do it visually.

A 1995 study that looked at the use of different reading strategies in whole language instruction with deaf students found that the use of bottom-up strategies, i.e., decoding of words, tended to distinguish skilled deaf readers from average deaf readers (Kelly, 1995). An earlier study revealed that temporal recall may put the deaf reader at a

Author Vanessa Wilson presents the word *read* through Visual Phonics. The x under the a indicates that the letter is silent. Photos by John Consoli.

disadvantage in recall of linguistic stimuli (Hanson, 1990). Educators have suggested that use of tactile-kinesthetic phonics (phonological recoding) may enhance sounding out of words by deaf readers (Dolman, 2000). It is hypothesized that Visual Phonics, through use of visual, tactile, and kinesthetic cues, stimulates phonological recoding, improves working memory, enhances temporal recall and visual processing, and provides a means to visually decode words.

In 1987, psychologist Dr. Bill Kachman and speech/language pathologist Vanessa Wilson of Gallaudet University did a preliminary study of training in phonetic awareness by using visual and kinesthetic stimulation to help improve a deaf child's reading skills. Kachman and Wilson worked with a 9-year-old, profoundly deaf student with a high average IQ, excellent conversational sign language skills, and reading scores that were below average. The Brigance Comprehensive Inventory of Basic Skills measured the child at the first-grade level and comprehension at the beginning of first grade. Wilson worked with the student three times a week for 20 minutes using Visual Phonics. By the end of the year, the student was using word attack skills, producing more understandable speech, and producing more appropriate mouth movements. In addition, the parents reported that he was attending to and attempting to read captions on the television. When retested, his word recognition had jumped to the second-grade level and reading comprehension was at the upper second-grade level. The Visual Phonics training appeared to have enhanced the student's phonological awareness and skills and thereby contributed to his overall improvement in reading.

Visual Phonics also appears to help speech development. A preliminary study (Wilson, 1987) of six pre-adolescent deaf students whose speech was considered to be unintelligible showed great improvement with the use of Visual Phonics. The students instructed with Visual Phonics acquired targeted sounds more readily and rapidly than did comparable groups of students who continued with traditional therapy approaches. In addition, improvement was shown in the production or approximation of sounds that were not targeted; students also produced the correct number of syllables in words when Visual Phonics was used. More testing is needed, but our preliminary research indicates that Visual Phonics improves phonological skills, reading skills, spelling skills, speech skills, and working memory.

Teachers Respond

Visual Phonics is used by teachers in programs throughout the country. Linda Schumann, a teacher of deaf students in San Diego, California, noted, "I feel Visual Phonics is a key...to help integrate phonics into speech, language, and reading activities. I have used Visual Phonics with children [who are] hearing and profoundly deaf....They learn it quickly and do well with it. I just love it!"

Jodi Blohme, a teacher of deaf students in Boward County,

Florida, agreed. "I have seen great success with my students with Visual Phonics," she said. "It is especially helpful with spelling dictation. If [students] are confused by a word, I give them the Visual Phonics cues and they usually get it right. I use Visual Phonics with my alphabet chant every morning."

Perhaps the greatest advantage of Visual Phonics is that by allowing deaf students to see the sounds of English, it gives them a tool to use in developing one of the most important skills, reading.

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a deaf child teaches a community about fingerspelling

By Mary Ellen Carew

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professor in the department of American Sign Language and Deaf Studies at Gallaudet University. She welcomes comments about this article at

Arlene.Kelly@gallaudet.edu

Kelly first reported the study she discusses in: Kelly, A. B., (1995). *Fingerspelling interaction: A set of deaf parents and their deaf daughter*. In C. Lucas (Ed.), *Sociolinguistics of Deaf Communities*. Washington, DC: Gallaudet University Press. 62-73.

**All names in this article have been changed to protect privacy.*

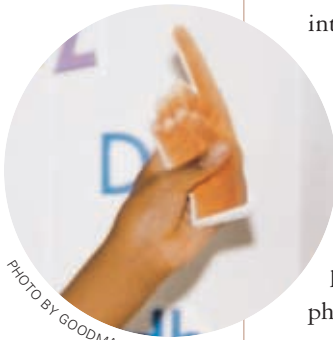


PHOTO BY GOODMAN/VAN RIPER

Above: Fingerspelling begins early for deaf children, noted this researcher, providing a bridge to literacy.

ODYSSEY: *In 1995, you published a study on fingerspelling that caused a lot of discussion. How did you get involved in this?*

AK: I was a researcher in the Gallaudet Research Institute. For about ten years, we had collected data on deaf children of deaf parents by videotaping them in their homes, capturing such typical, unplanned activities as reading stories, play, mealtimes, bedtime routines, even a parent's birthday. Because of my fascination with fingerspelling, I decided to look at receptive and expressive fingerspelling skills in one deaf child over the course of four years. I was curious how these skills developed.

ODYSSEY: *Who was the child?*

AK: Debbie*, a deaf daughter of deaf parents living in the eastern part of the United States. Her parents are white and college-educated. Debbie's maternal and paternal grandparents are deaf. A set of great-grandparents was deaf, too, making this child fourth-generation deaf. Debbie has a younger deaf sister, Ann. Now a teenager, Debbie still lives in the East with her parents and Ann. An excellent athlete, she also enjoys reading.

ODYSSEY: *How did you record the development of Debbie's fingerspelling skills?*

AK: Over a period of four years, we recorded 42 tapes of Debbie at home with her family and friends. An average videotaped session ran 40-45 minutes, totaling 31 hours of interaction.

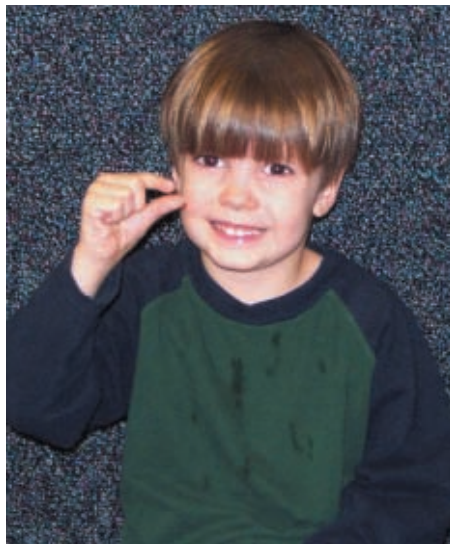
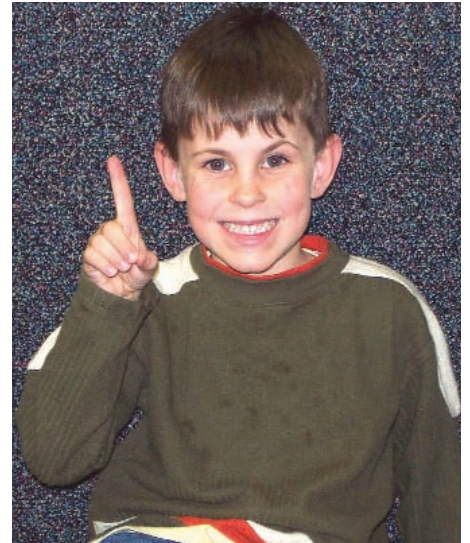
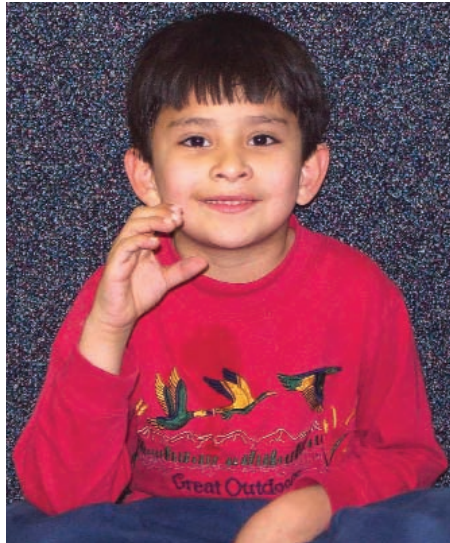
ODYSSEY: *How did you analyze that?*

AK: I did it in three steps. First, I transcribed all the fingerspelled items that Debbie, her parents, and other adult relatives produced. Second, I eliminated those items that Debbie might not have seen. The focus of my analysis was on items that the parents and other people purposely fingerspelled to Debbie. I also included situations in which Debbie observed adult conversations that included fingerspelling. Third, I focused on the linguistic context of each item, i.e., Was fingerspelling produced in isolation or as part of a phrase or sentence? I also sorted each item according to the part of speech it represented: noun, verb, adverb, adjective, and preposition. In American Sign Language, fingerspelled items such as O-K also frequently appear as *tag questions*—questions occurring at the end of a sentence. An example in English is, "John is not running, is he?"

We also identified "sandwich" phrases. A sandwiched phrase is when a word or its equivalent occurs inside a phrase in both fingerspelled and signed forms.

Photography on page 19 by Philip Bogdan

Models: Kendall students Hannab Peterson, Cristhian Medrano, Zachary Brecheen, Wolfgang Staley, Shannon Thornbill, Jobanna Cruz, Emmanuel Wjoku, Reedy Hines, and Tara O'Donnell.



ODYSSEY: *How old was Debbie when you began to study her fingerspelling?*

AK: Debbie was five weeks old when we made our first videotape, but on this tape the parents did not fingerspell to Debbie. The first fingerspelling we caught was when Debbie was eight weeks, and Debbie's mother included fingerspelled words in two sentences and a question: "Look a-t me." "You should smile for t-h-e camera." "Show smile, O-K?" At 14 weeks, the mother asked Debbie, "Laugh a-t me?" At 17 weeks, Debbie's mother said, "Look a-t yourself in t-h-e mirror." "What want d-o now?" When Debbie was 7 to 12 months, 18 of the parental comments we recorded included fingerspelling. There was an increase of d-o and O-K in isolation, in sentences, or as a tag question like "O-K?"

ODYSSEY: *What were some early milestones in the growth of Debbie's fingerspelling skills?*

AK: When Debbie was 19 months, both parents were on the floor with Debbie, playing with alphabet blocks. Together they identified the first letter of each family member's name—*M* for Mommy, *D* for Daddy, *N* for Nana—by pointing out the block and producing the corresponding handshape simultaneously. By 22 months, Debbie could identify the letters herself, pointing out which letter represented which family member, including her infant sister.

When Debbie was 24 months old, her father asked if she wanted "potato c-h-i-p-s," and Debbie copied him by signing to herself: "potato c-h-p c-h-p c-h-p potato."

Interestingly, during Debbie's 30th month she invented a name for her new doll: "S-i-l-a." While this was a pretend name, it was phonologically correct in English. Debbie also discussed her uncle's job at "I-B-M" with her deaf aunt.

When Debbie was 41 months, her mother devised a game in which she wrote names of immediate family members and nouns in capital letters on index cards. The mother flashed the cards to Debbie, encouraging her to copy the letters and then to produce a corresponding sign. In some cases, Debbie struggled to understand a whole word, but when her mother repeated with a lexicalized sign—that is, a sign in which the letters are borrowed from fingerspelling and condensed in movement and shape—Debbie caught on to the meaning. For example, when Debbie did not understand *r-i-c-e*, her mother showed her lexicalized "*#rice*." Debbie understood and responded back with the same lexicalized sign.

At 47.5 months, Debbie, playing by herself, recited the whole manual alphabet slowly. At 50 months, Debbie

fingerspelled the whole manual alphabet smoothly with one error: she fingerspelled...*N-O-Q*. Suddenly she caught herself and backtracked...*N-O-P-Q*.

ODYSSEY: *In what context did Debbie's parents use fingerspelling?*

AK: Most of Debbie's parents' utterances with fingerspelled items were in sentences. One fingerspelled item that appeared in tag questions and in isolation was *OK*.

As I mentioned, we videotaped the first three sentences with fingerspelling made by Debbie's parents when Debbie was eight weeks: a preposition, a-t; a noun phrase, t-h-e camera; and a tag question, "O-K?"

ODYSSEY: *Did you look at how she fingerspelled?*

AK: The earliest we videotaped Debbie fingerspelling a noun was at 24 months: "potato c-h-p c-h-p c-h-p potato."

Debbie's earliest fingerspelled proper name, captured on videotape at 25 months, was when she mentioned a friend. The earliest verb, "D-o?" was videotaped at 43 months. It is possible that this utterance was produced much earlier but not captured on tape until this point. Debbie's earliest fingerspelled adjective, "l-o" and "l-o-o-l-o" (for "loose") was taped at 49.5 months.

ODYSSEY: *You mentioned sandwiching earlier. How did Debbie use this fingerspelling structure?"*

AK: Debbie herself used sandwiches at 37 months by asking her sister: "O-K? O-K?"

At 38 months, Debbie answered an off-camera question, "No, N-o." At 40 months, we found Debbie informing her sister that they had a visitor in the house by signing the visitor's name sign, then fingerspelling his name, *J-i-m*, then finishing with his name sign. Debbie's most frequent question around this time was "D-o today D-o?" or "D-o now D-o?" At 44 months, when talking with her mother, Debbie signed "sleep" then fingerspelled n-a-p. And at 49 months, while playing with dolls with her sister, Debbie signed "N-o zero" and "Not hit N-o, N-o, N-o!"

ODYSSEY: *What conclusions could you draw from all of this? How did you relate the progress of one child, Debbie, to published opinions on children's fingerspelling?*

AK: Debbie's parents exposed her to fingerspelling immediately after her birth. We have such evidence on record from eight weeks of age. Debbie's fingerspelling of individual letters, as shown in her blocks play at 19 and 22 months, exhibited clear formations. Debbie fingerspelled to herself at her second birthday party. This time frame matched that



PHOTO BY GOODMAN/VAN RIPER

described by Padden and LeMaster, who noted that it was usually around the second birthday that children produced fingerspelled items independently.

Mayberry and Waters suggested that children were able to remember words expressed in purely fingerspelled form without the support of sign. We found this to be true of Debbie, as shown by her playing the index card game at 41 months. At this age, Debbie did not understand some words when they were fingerspelled. But when her mother repeated these words in lexicalized form without the support of other signs, Debbie showed comprehension.

Half and full sandwiching was useful in labeling objects—to introduce both the written and signed forms—and occurred frequently in Debbie's' parents' signing. They often pointed at an object, then fingerspelled and signed, or in reverse: signing, fingerspelling, and then pointing. Often while Debbie and her parents were reading stories, sandwiching appeared that included pointing at the pictures in the books. It became apparent that deaf parents in the early education of their young deaf children use sandwiching, in addition to pointing, frequently.

ODYSSEY: *Why is fingerspelling important?*

AK: Many people have asked when and how often deaf parents should expose their deaf or hearing children to fingerspelling. Evidence from Padden and LeMaster and Mayberry and Waters shows that children acquiring ASL also acquire the ability to produce and understand fingerspelling at a very early age. This current study supports these ideas. Thus I encourage parents to use fingerspelling in their daily discourse with their deaf children as early as possible.

ODYSSEY: *Do you know if Debbie uses fingerspelling now?*

AK: When preparing this article, I thought it would be great to have an on-line interview with her. I got permission from her mother, who warned that Debbie the teenager may not say much. Sure enough, Debbie's responses over e-mail were so succinct, I followed up with a face-to-face chat. Both her mother and Ann, her younger sister, contributed bits to the chat.

We talked about my previous study and all laughed about the index card game in which Debbie comprehended fingerspelled *r-i-c-e* only after she saw lexicalized *#rice*. Both Debbie and Ann seemed astonished about the difference between full signs and

**Later in the chat,
Debbie also realized
that her friends actually
used lexicalized signs
and wondered if they
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like a moment of
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hope Debbie raises this
question with her
friends.**

lexicalized signs.

At first, Debbie said that she rarely used fingerspelling except when frustrated or upset. Ann volunteered that Debbie often fingerspelled when calling out basketball plays, which is a common occurrence in such activities. Debbie and Ann also said that their parents used fingerspelling only to introduce a new word or to clarify a concept. In discussing fingerspelling among her friends, Debbie professed that they did not use fingerspelling except when a word did not have a sign. She also added that she did not think any of her friends knew fingerspelling, anyway.

After a few minutes of talking, however, Debbie and Ann backtracked, realizing that their parents incorporated a lot of loan signs in daily conversations. Later in the chat, Debbie also realized that her friends actually used lexicalized signs and wondered if they themselves were even aware of that. It was like a moment of enlightenment, and I hope Debbie raises this question with her friends.

Similarly, Debbie initially denied the connection between fingerspelling and her reading ability. She said she read only because her parents gave her books early on, with which I had to agree, as they are evident in many of the videotaped reading sessions. But I pointed out how her father introduced a cupboard in a book: "open c-u-p-b-o-a-r-d shelf." With a shy smile, Debbie finally saw the connection.

I was especially curious about the fact that Debbie uses fingerspelling with her grandparents more than with other family members. She explained that they were orally trained, and that she is a rapid signer. In addition, Debbie's mother offered that the grandparents are often unaware of "modern signs," mostly because of their oral upbringing. Fingerspelling clearly plays a role in bridging two modalities—oralism and manualism—in addition to being helpful when learning to read.

From conversations with her parents and my own observations, I know that Debbie is very intelligent and clearly ahead of most of her peers. Because of this, I believe that acquiring receptive and expressive fingerspelling at an early stage in life has contributed to her academic achievement. I strongly encourage parents and relatives of newly diagnosed deaf infants, educators of young deaf children, and friends of the deaf to incorporate fingerspelling into their daily conversations. No one is ever too young to learn and use it.

when fingerspelling replaced signs

REMEMBERING AN ENCOUNTER WITH VISIBLE ENGLISH

By MJ Bienvenu

MJ Bienvenu, Ph.D., is an assistant professor in Gallaudet University's Department of American Sign Language and Deaf Studies. She is also the department's newly appointed chairperson.

At my graduation from the Louisiana School for the Deaf (LSD), I used no signs at all. I fingerspelled my entire valedictorian speech. There were two supportive fingerspellers who relayed my speech through their fingers on the sides of the audience. Unfortunately, my parents and sisters, also deaf, sat in the eighth row, and they had difficulty seeing me. One of my sisters took it upon herself to walk to the front. She alone of all my family was close enough to me to understand my words as I fingerspelled them, and she stood and watched the whole speech.

The fingerspelled speech was a result of a communication method foisted on LSD in 1962 by Mr. Edward Scouten, who had become our principal. The system was called "Visible English." At LSD, Visible English meant fingerspelling everything and all the time to communicate. Fingerspelling was partly an aid to lipreading so we would fingerspell at neck level and mouth each word as we said it. The magic word was "English," and everyone thought it was a good idea. I am not sure what method, if any, the school used prior to that. I remember that we signed in classrooms and had training in speech. Although I was only 10 years old, I remember vividly how excited both deaf and non-deaf teachers were about the transition from signing to Visible English. Teachers—hearing and deaf—were excited at the potential of this communication method, at least in the beginning.

Far right: Artist Mary Thornley depicts two teenagers in the intimacy of shared and easy communication.

Sara and Garrett:
Two Students from MSSD
oil on canvas
2000

Later as our use of fingerspelling became strictly enforced, we realized that Visible English was difficult. Most non-deaf teachers could not fingerspell intelligibly and we missed many letters in the words they spelled. Even for those teachers we could understand, watching constant fingerspelling was such a strain on our eyes.

They kept saying it was for the sake of learning and improving our English skills. At the beginning, we thought it was actually happening. There seemed to be scores of little children fingerspelling and they were adorable.

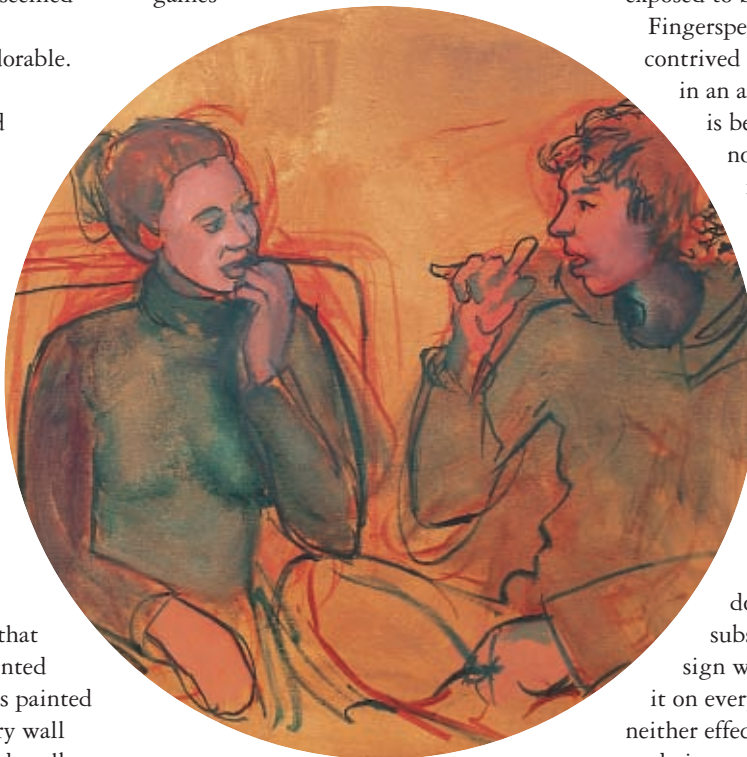
In reality, there were not the numbers initially imagined and those who were proficient had parents who were deaf and had already acquired American Sign Language, including the skills for using and understanding fingerspelled words. The school reveled in our success anyway, calling on us—the children of deaf parents—repeatedly.

We fingerspelled everything and everywhere, including recreation rooms, the cafeteria, and the playground. As part of Visible English, Mr. Scouten saw to it that everything on campus got a printed label. Every step on campus was painted with the word “STEP” and every wall with the word “WALL.” The sidewalk was painted “SIDEWALK” and water faucets outside on brick walls were painted “WATER FAUCET.” Pencil sharpeners were taped “PENCIL SHARPENER” and every window sill was painted “WINDOW SILL.” I remember the radiator. Its painted word peeled and was repainted—again and again.

I recall one time when my mother asked if I could come back to school late from my Christmas holidays in New York and Washington, D.C. Mr. Scouten looked at me for a while and finally asked me to fingerspell the names of things to which he pointed. I did and he

said that I was granted permission. I wasn’t asked to say anything in full sentences, just to fingerspell items. Many of my peers were able to fingerspell words, but many were not able to fingerspell whole sentences.

When we played sports, coaches were forced to fingerspell everything, too. Eventually they gave up. It was too cumbersome and often they were too far away for players to understand their handshapes. Bingo games



were fingerspelled, including the numbers. Students began to complain. Some deaf teachers closed doors and used American Sign Language.

My experience with Visible English was different from that of most of my classmates who came from homes where parents were non-deaf. My parents are deaf and I am a native signer. I had a linguistic background my classmates could only envy, as I had acquired English before I started school. My parents gave me books to read and I was able to write my name at age five. I did not board at the school. I was a day

student, so I had constant contact with American Sign Language and written English at home throughout my school years.

My father did use fingerspelling. He fingerspelled words in context, helping me to acquire the fingerspelled words. I do not give any credit to the Visible English of LSD for my English acquisition. Rather, I credit a lucky and loving home, where I naturally acquired American Sign Language and was exposed to books at an early age.

Fingerspelling is better than the contrived sign systems that came later in an attempt to teach English. It is better for students to see nouns in their natural fingerspelled form than invented signs. Take, for example, the months of the year. These are usually fingerspelled and have become lexicalized signs, that is signs that originated in fingerspelling and still look like fingerspelling but that function as a single “word” rather than as separate “letters.” We don’t need unnatural substitutes. But to replace every sign with fingerspelling and force it on every school child is absurd. It is neither effective—teachers were not able to do it—nor is it developmentally appropriate.

When Visible English did not work at LSD, the administration became punitive. Many students struggled. After Mr. Scouten left the school, parents protested and marched until a Total Communication philosophy was adopted in 1975.

As is too often the case for deaf children everywhere, the students at LSD during my time were guinea pigs. It would have been better, I think, if we had been treated instead as human beings and allowed to use the language that came naturally, including its fingerspelling component.

fingerspelling ain't easy

(BUT I USE IT EVERY DAY)

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coordinator for the Laurent
Clerc National Deaf
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are welcome to contact him
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By David R. Schleper

Like a lot of teachers, I often ask deaf adults about certain signs I plan to use. How do you sign “cake?” How do you sign “budget?” I will ask, hoping that the adult will give me a sign. Almost every time they say just one thing: Fingerspell.

I hate fingerspelling. I am sure that the majority of hearing teachers—and maybe some deaf teachers—feel the same. But over the last few years, I have come to realize how important fingerspelling is—not only for communication, but because it connects directly to reading and writing. In fact, I’ve come to believe that the use of fingerspelling and reading and writing with deaf children is the same as the use of phonics with hearing children. Here is what the research says:

Fingerspelling should be used very early, before the child can read or write.

Parents and caregivers who are deaf fingerspell to their deaf children from the time they are born. Deaf children of deaf parents spontaneously produce fingerspelling as part of their expressive communication by their second birthday (Padden & LeMaster, 1985). In Kelly’s study (2003), the child started fingerspelling at age 2.

I used to think that fingerspelling should not happen until children started school. In addition to this research, my own experience helped me change that idea. I do not have a name sign. When I introduce myself, I fingerspell my name, D-A-V-E. A short time after I left a friend’s home, his 2-year-old child said to his mom, “Where is...” and his fingers moved in handshapes that resembled the fingerspelling for my name. The mom said, “D-A-V-E left. He will be back later.”

About two weeks later, when I left again, the child said, “Where is E?” Again, the mom explained that D-A-V-E had left, and would be back later. Two weeks after that, the child said, “Where’s V-E?” Once again, the mom said, “D-A-V-E is gone. He will be back later.”

Finally, three weeks after that, when I again visited and left, the child had mastered the whole sequence of letters that form my name. “Where is D-A-V-E?” he asked his mom.

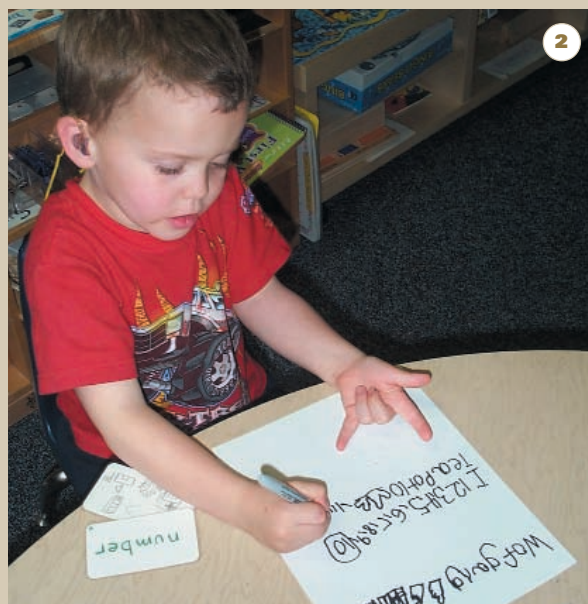
Just like young hearing children develop spoken language, deaf children can develop fingerspelling by using it.

Fingerspelling...

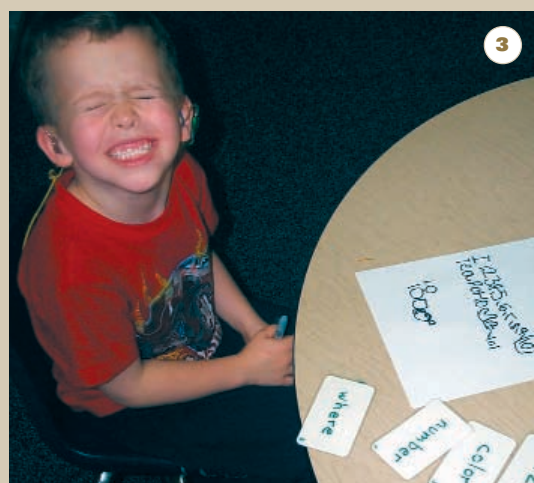
**connects
directly to
reading and
writing.**



1



2

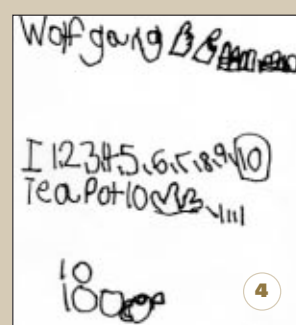


3

TUTORIAL IN A TEAPOT

After Wolfgang Staley returned from the display of teapots at the Botanical Gardens, his drawings reflected his joy—and his experience of language.

1. Wolfgang was determined to count each of the 100 teapots on display.
2. He showed his feeling by incorporating the “I love you” handshape into his work.
3. With his teacher’s cue cards and his own writing before him, Wolfgang is pleased.
4. In Wolfgang’s completed work, a story unfolds. His first line—in alphabetic print, signs, and handshapes from American Sign Language—reads: “Wolfgang goes to [the] museum.” Underneath, he shows the meaning for count by writing out each numeral, 1 through 10. He circles 10 as this was his favorite teapot. Then he adds “teapot 10 I love you!” He concludes by noting that his teapot was number 10 out of the 100 teapots on display.



4

The alphabetic basis of fingerspelling does not appear to be essential for its acquisition

Just like the child who learned my name, deaf and hard of hearing children learn to fingerspell names before they start school, without knowing the ABCs. The word is performed in fingerspelling almost as a single unit. For my 2-year-old friend, D-A-V-E was a sign. A few years later, he would learn the alphabet and then connect the letters to print.

Children can and should play with fingerspelling

Dennis and Sharon Berrigan have read to their deaf daughter, Bridget, from the time she was born. At 30 months old, their daughter loved books, including *Franklin is Lost* and *Franklin in the Dark* by Paulette Bourgeois. While reading, the Berrigans fingerspelled many words, including F-R-A-N-K-L-I-N, the main character in the stories. Bridget recognized both the fingerspelled and printed name and frequently fingerspelled it back to her parents. Here is how Bridget spelled the word over a two-week time period:

F-L-N

F-R-L-N-I

F-R-K-L-N-I

F-R-A-N-K-L-N-I

F-R-A-N-K-L-I-N-I

F-R-A-N-K-L-I-N

According to the Berrigans, “Just before Bridget’s final mastery of Franklin’s name, she spelled it with an extraneous *I* (i.e., *F-R-A-N-K-L-I-N-I*). “We never corrected Bridget’s fingerspelling, teaching her instead through modeling,” they noted.

But on one occasion, when Bridget attempted to correct her father as he spelled the turtle’s name without its phantom *I*, he offered an explanation. “There’s no *I* at the end of *Franklin*,” he told her. He pointed to the word in the book, and then he fingerspelled it again. Bridget watched intently. The next time she fingerspelled Franklin, the extraneous *I* was gone. It never resurfaced on her fingers again.

According to Dennis, Bridget, now 6 years old, “...fingerspells a lot more than I ever fingerspelled during my first 10 to 15 years of life.”

Another great way to develop both fingerspelling and the alphabetic knowledge in a playful way is through sharing ABC stories. In ABC stories, a story is signed using successive handshapes of the finger alphabet. Here is a beginning example:

- A-handshape—I clean (a flat surface)
- B-handshape—I open it up
- C-handshape—I look for something inside

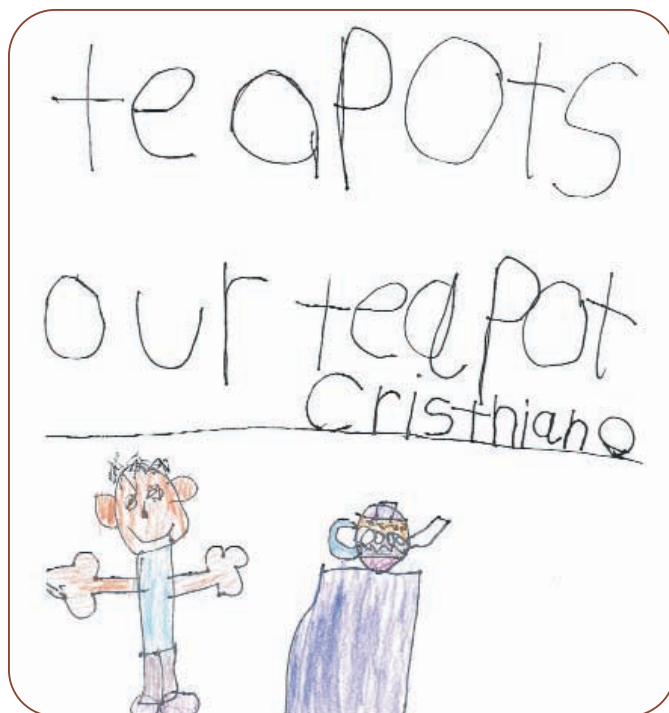
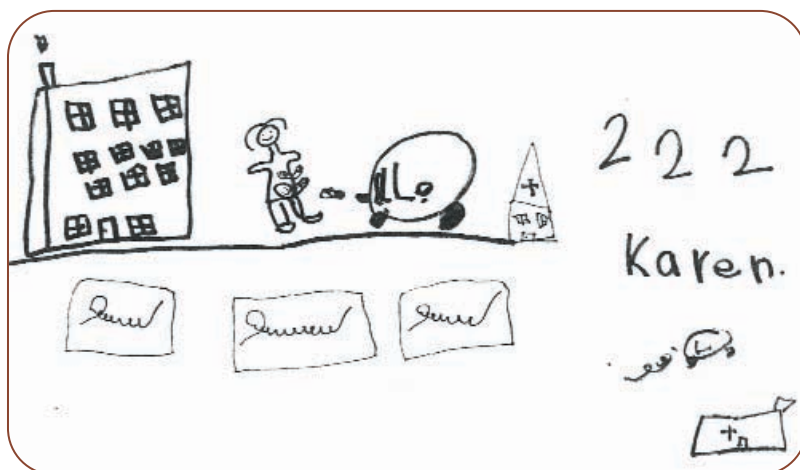
Fingerspell! Don't Invent Signs.

It is easy to invent new signs instead of fingerspelling the words. But it is not necessary, it offends people with a strong allegiance to American Sign Language, and it does not help students develop skills that connect to writing. Once I observed a class of 5-year-olds in the midwestern United States where students extended the sign for car by applying it to a variety of vehicles, with a *T* for *truck*, a *B* for *bus*, and a *V* for *van*. I asked the teacher to fingerspell “van,” instead of using the invented sign. At first she was reluctant because “a lot of the children are just starting signing, and it might be too hard.” I told her to go ahead and try it. When I returned to the class a few weeks later, I noticed that the children—and the adults—were signing V-A-N. The children have great minds and they C-A-N do it!

Personal importance, rather than length, drives fingerspelling.

Andrews and Mason (1986) note that most young children begin their spontaneous fingerspelling with short words. However, some children begin with longer words. According to Ruiz (1995), her child fingerspelled many words that were eight letters long, but highly meaningful to her. In first grade, her child spelled “Clifford.” A week later, she spelled

Below: The student who drew and captioned this illustration is a twin. He said that his illustration shows, “two babies. Twins.” He also explained that “Inside Mommy’s tummy. That’s my house. Drive to the doctor’s house,” and that the three name tags were for himself, his twin, and their Mommy.



Above: This child from El Salvador copied the text from the morning message, *Teapots our teapots*, then added his name *Cristhiano*. Finally he added the *O*. When asked about the *O*, he said that it signified *Cristhiano home*. The sign for home uses an *O* handshape.

“Hollywood” and “Christmas.” If the word was important to her, or if she needed that word for writing, she would fingerspell it, no matter how long.

When writing, students may focus on a “first handshape equals first letter” concept.

As children learn sign language and fingerspelling, they notice that some words—like *blue*, *pink*, *uncle*, *aunt*, or *yellow*—are formed by the letter in the finger alphabet that represents the first letter of the word in print. They may apply this pattern—first handshape equals first letter—when they begin writing (Padden, 1996; Ruiz, 1995; Schleper, 1992; Schleper, 1994).

For example, Padden (1996) noted that children may spell words with the first and perhaps last letter in place while guessing at part of the middle sequence, i.e., *B-L-U-K-E* for *blue*, *P-I-K* for *pink*, or *Y-P-E-W* for *yellow*.

At the same time, the children do what all beginning language learners do and over-generalize the rules they learn, initializing signs that are not in this morphological category (Padden, 1996; Ruiz, 1995; Schleper, 1992; Schleper, 1994). I noticed this when my 7-year-old student, Jamie, wanted to write the word ‘patient’ (Schleper, 1992).

He began by making the sign for *patient*, the A-handshape drawn down on the lips in a double movement. He wrote the letter A. Knowing the word had several letters, he added a few more. Finally, Jamie repeated the sign again, looking at what he had written. It wasn’t quite right. He noticed the double movement, the repeated A-handshape. Of course! He

Ruiz (1995) notes that through age 7, her child continued to use the first handshake-first letter process and favored it over any other visual memory or sound-based strategies for determining the first letter of an unknown spelling. In Padden's research (1996), a 4-year-old deaf child wrote Y-O-B for airplane. According to Padden, the use of O-B for the remainder of the word is probably a repertoire of either a favorite letter or letters that resemble in some way their recollection of the spelling of the word.

Ruiz (1995) believes that deaf children learning to write use a number of letters that correspond to the size or age of the person or thing. When her deaf child, Elena, learned that one of her older friends, Lisa, had a name that is spelled with only four letters, she had a hard time accepting it—after all, Elena, who was younger, knew her own name spanned five letters.

Padden (1991) notes that as young signers learn more about American Sign Language, they realize that certain aspects of invented spelling do not “make sense” and they stop using it. Instead, the children learn the rules governing the selection of letters, the order that letters appear in a fingerspelled word, and how fingerspelling is linked to English vocabulary.

SAM
LABS
KARONN

‘B-A-N-K’?” It seemed strange to have him ask how to spell a word that he already spelled with his fingers. But as he began to understand the concept of matching letters to the words, this kind of query would no longer appear. This is why so many children, when writing, fingerspell, watch their own hand, and write down what they see. The kinesthetic and visual process is key.

In Padden's research, children sometimes used fingerspelled handshapes on the written page. A child knew the letters of the alphabet, but wanted to represent fingerspelled handshapes on the paper (Padden, 1991).

English orthography is accessible through visual, rather than phonemic, means.

With children, this can be seen when watching how people write words. Hearing children, using a phonemic means of writing, may delete letters. Deaf children often have the right amount of letters, but may either transpose or substitute letters. With words that have double letters, they may double letters, but sometimes not the right ones.

A hand-drawn diagram of a circular path. At the top, a car is shown moving clockwise. A person is walking along the path, with the word "WALK" written above them. The path is labeled with "WALK" at the top, "WALK" on the right, "WALK" on the left, and "WALK" at the bottom. The word "WALK" is also written in the center of the circle.

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child will write “happy.” The number of letters is correct, but instead of deletions, deaf children will make substitutions (Padden, 1991), an action that reflects visual, instead of auditory, processing.

Clarity of fingerspelling is important. A friend of mine, Nancy, is friends with a 5-year-old child who is deaf. The child learned my friend’s name sign first, and then eventually fingerspelled her name, N-A-C-Y. The child continued to spell my friend’s name N-A-C-Y, both in fingerspelling and in writing, even if my friend modeled the correct spelling back to her. This went on for several months. Then one day the two of them had a discussion about names that started with the letter N. My friend told the child that her name had two Ns and asked how she would spell that. The child spelled N-A-N-C-Y correctly. After that one explanation, the child now always spells N-A-N-C-Y instead of N-A-C-Y.

Deaf children use morphology—words within words—to help remember spelling.

As an educator, I often read to students. With one group of students, I was reading the book *The Dancing Fly* by Joy Cowley. I always try to spell the name of the author in order to expose children to a variety of authors. After reading the book, I read it again the next day. Right away, one student said, “It is by Joy Cow-ley,” using the sign for *cow*.

Since that time, I often look at how deaf children remember spelling. Even older students use the strategy of words within words. One student used the word “reduce” in his writing. I asked him later how he remembered how to spell that word, and he told me, “Simple...I just remember RED + ICE, take away the *I* and put in a *U*” (Schleper, 1994).

Many deaf children called my friend B-E-S-T-Y, despite her efforts to have them correctly call her B-E-T-S-Y. Then, one day, a student figured it out. He said, “It is B-E-T as in making a bet!” From that time on, they remembered that it was B-E-T-S-Y, not B-E-S-T-Y.

So Much More to Learn

As an educator, I continue to go into classrooms and look at how deaf and hard of hearing children use fingerspelling when they compose. I try to kid-watch, and take time to ask the students to tell me what their writing means. I also try to encourage other educators to do the same. I see that many of the deaf students I work with use visual strategies.

Ruiz (1995) notes that when her child did not use sound-based strategies to write, many researchers of emergent literacy put her child at an early period in writing development. Yet by all indications, says Ruiz, her child was well on her way to managing the forms of print that encompass the broad range of purpose for her writing.

Although much of the research with hearing children emphasizes the need for phonemic awareness activities and direct phonics instruction, the use of various visual strategies

with deaf children makes me wonder if the use of fingerspelling regularly, clearly, and often will develop skilled reading and writing.

With this knowledge, I hate fingerspelling a little less—and use it a lot more.

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Far right: Allison Polk, who cued with her own mother and learned sign language in school, uses both to play with her daughter Leah Kaftan. Polk's goal is that Leah, who is also deaf, becomes fluent in both English and American Sign Language.

research and theory support cued speech

By Carol LaSasso and Kelly Lamar Crain

Parents, teachers, and others who converse face to face with deaf children have essentially four methods for conveying English and other traditionally spoken languages visually: oral-aural methods, fingerspelling, manually coded English systems, and Cued Speech. Historically in the U.S., support for oral methods prevailed until dissatisfaction with the continued low reading levels of deaf students prompted many to revolt against oral English-based methods and advocate for the use of a signed language. The assumption of some who supported the use of a signed language versus spoken English was it is the language (i.e., English) instead of the communication



Photography by John Consoli



mode (i.e., speech) that presents special difficulty for deaf children, and that signed languages (i.e., American Sign Language) are learned more easily than traditionally spoken languages, including English. Some supported the use of signed vocabulary but felt that the signs should be conveyed in English word order via a manually coded English system. A number of systems of manually coded English were developed that incorporated signs borrowed from American Sign Language, the word order of English, and additional invented signs to convey morphological elements such as plurals and affixes. Proponents believed that these systems allowed students to develop English vocabulary and syntax. Examples of these systems included: Seeing Essential English or SEE I (Anthony, 1971), Signing Exact English or SEE II (Gustason, Pfetzing, & Zawolkow, 1972), and Signed English (Bornstein, Saulnier, & Hamilton, 1973-1984). These systems have been in widespread use. However, reading levels of deaf students today are virtually the same as they were in the mid-1960s.

In 1964, Cued Speech was invented by Orin Cornett, a physicist by training, who was interested in visually conveying English clearly and completely to deaf and hard of hearing persons at the same linguistic level (i.e., phonemic) as it is conveyed to hearing individuals (Cornett & Daisey, 1994). Cued Speech addresses the problem inherent in oral-aural methods by fully specifying, or distinguishing between, the different phonemes of traditionally spoken languages. For example, the phonemes that are represented by the letters *p*, *b*, and *m*, pronounced by some as *pub*, *bub* and *mub*, are fully specified and easily distinguished for individuals who can hear, but are indistinguishable or insufficiently specified for those who do not. Thus people who rely on lipreading alone have no way of distinguishing words such as *maybe* and *baby* or *may*, *pay*, and *bay*.

Cued Speech utilizes a system of eight hand shapes and four hand placements near the mouth to distinguish the 40 or



so phonemes of English and other traditionally spoken languages. That is, Cued Speech conveys each phoneme visually as clearly and completely as it is conveyed via speech to those who can hear. Despite being adapted to more than 56 languages (Cornett & Daisey, 1994), Cued Speech has never been in widespread use with deaf children. It may be that the name, *Cued Speech*, conveys the false impression that the system is designed to develop speech instead of English and reading. It also may be that until recently there was a lack of theory and research to support its use as a method of communication with deaf students.

During the past decade, however, both theory and research findings have been

published to support the use of Cued Speech. LaSasso & Metzger (1998), comparing the signing of English via manual codes to the cueing of English via Cued Speech, cited three advantages for hearing users of Cued Speech. Specifically, in comparison to manually coded English systems, Cued Speech more completely conveys English and other traditionally spoken languages, it requires less memory to become fluent, and it requires less cognitive energy from parents.

LaSasso and Metzger (1998) note that systems of manually coded English convey no phonemic information about English. They discuss the biological predisposition of children to learn a language and note that children

everywhere in the world, whether their language is tonal or alphabetic, or whether its syntax is complex or simple, acquire that language at about the same rate if the children have 1) clear and complete access to the “continuous phoneme stream” and 2) consistent opportunities to interact with fluent users of the language during the preschool years. LaSasso and Metzger suggest that the purported failure of systems of manually coded English (Dragow & Paul, 1995) to impact more greatly on reading levels of deaf children is related to the limitations of these systems to convey the “continuous phoneme stream” of the English language.

The second advantage of Cued Speech

cited by LaSasso and Metzger (1998) relates to the memory involved in learning each system. Cued Speech involves much less memory than systems of manually coded English. The memory required in the handshake and placement combinations for the 40 or so phonemes in English can be learned in a weekend. Estimates of time for individuals to become fluent (i.e., be able to cue at the same rate as speaking) in Cued Speech vary from six weeks to a few months. It has been estimated (Guszk, 1972) that the receptive vocabulary of hearing 6-year-olds is 25,000 words, which is an average of 4,000 words a year, 100 words a week, or 20 words a day. Learning 20 new signs every day to use with a deaf child would be a daunting task for hearing parents who would be the language models for their deaf child, especially if there were no fluent signers with whom parents could interact in order to retain the signs learned.

The third advantage of Cued Speech when compared to systems of manually coded English cited by LaSasso and Metzger (1998) relates to the cognitive energy required for a parent to sign English versus cue English. Cueing involves *transliterating*—coding a language rather than translating it. Signing a traditionally spoken language, at least for beginners, involves *translating*. Specifically, signs from American Sign Language must be retrieved and translated into English, and additional signs for prefixes or affixes must be added. In addition, translation decisions need to be made. For example, to convey the English sentence, *The shoe-fly beetle was eaten by the blue jay*, the signer needs to decide which of the 6,000 or so signs comes the closest to the shoe-fly beetle (BUG) and blue jay (BLUE + BIRD) or whether he or she should fingerspell the words. The need for decisions like these is a mental

Right: Handshapes used in conjunction with mouth movements help Cued Speech users differentiate the sounds of speech. *Reprinted with permission from Language Matters, Inc.*

**Cueing involves
transliterating—coding
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translating.**

burden, which is one reason why some interpreting services send two interpreters on jobs that last longer than one hour.

Leybaert and her colleagues (Alegria,

Dejean, Capouillez, & Leybaert, 1990; Alegria, Lechat, & Leybaert, 1990; Charlier, 1992; Leybaert, 1993; Leybaert & Alegria, 1993; Leybaert & Alegria, 1995; Leybaert & Charlier, 1996; Perier, Charlier, Hage, & Alegria, 1988) have demonstrated that deaf individuals who have been exposed to Cued Speech both at home and at school perform comparably to hearing peers on tasks of phonemic awareness, internal speech recoding, phonics, and spelling and perform generally better than their deaf counterparts from oral or signing backgrounds. In a recently published study (LaSasso, Crain, & Leybaert, 2003), the rhyming abilities of deaf college students from Cued Speech backgrounds were comparable to those of their hearing peers and better than those of deaf students who came from non-Cued Speech backgrounds.

Eden, Lansdale, Cappell, Crain, Zeffiro, and LaSasso (submitted for publication) report results of a study that incorporated functional magnetic

Cued American English Consonant Handshapes*



/d/ does
/p/ Paul
/zh/ measure



/k/ cats
/v/ vote
/th/ there
/z/ zinc



/h/ he
/s/ saw
/r/ rats



/b/ be
/n/ no
/hw/ where

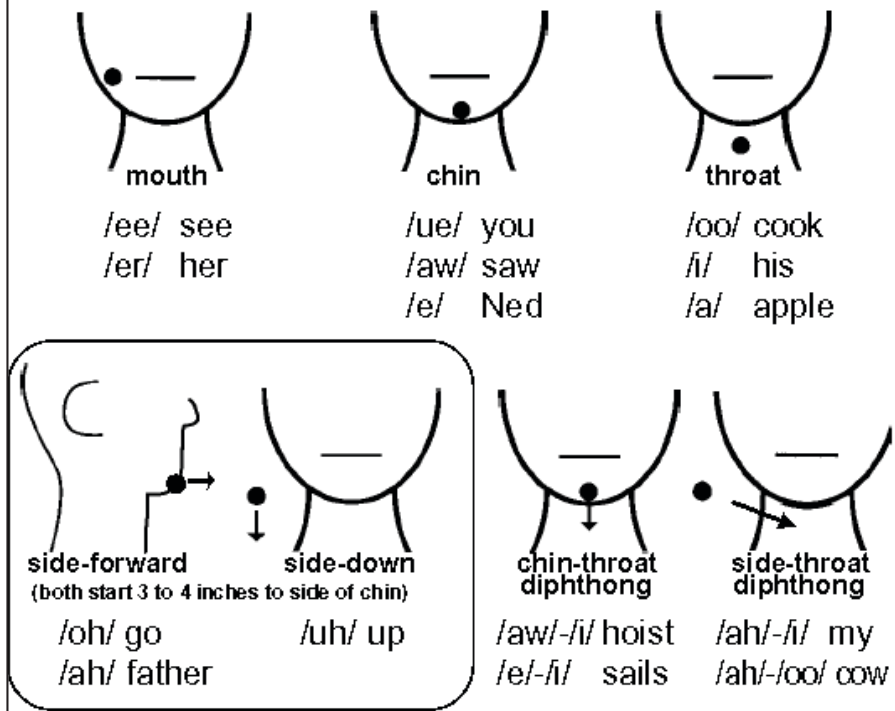


/m/ my
/f/ feet
/t/ tickle



/l/ Lee
/w/ was
/sh/ shy

Cued American English Vowel Placements*



Cued Speech at Home and School

There are basically two types of applications of Cued Speech that parents and teachers might consider for deaf students. First, Cued Speech could be used as a tool in reading programs to develop phonics abilities of deaf students who already have some phonological knowledge of English. Phonics involves learning about the relationship between the phonemes, the smallest unit of speech that serves to distinguish a language, and graphemes, the letters of the alphabet. Teachers who cue the phonemes of English can more easily teach the phoneme-grapheme relationships to deaf children because Cued Speech fully distinguishes the phonemes visually.

The second application of Cued Speech is for English language development, which is critical for reading English text. In this application, deaf children are immersed in a cued English environment, preferably both at home and at school. The interactions between the deaf child and cueing family members are the same as in a family without a deaf child except that attention needs to be paid to whether the deaf child is looking when others

resonance (fMRI) brain imaging techniques to learn about how deaf individuals from Cued Speech backgrounds process phonological information. In that study, participants were matched on a word reading task with hearing peers and asked to perform phoneme deletion tasks while in an fMRI scanner. Results of that study revealed that 1) the phonological abilities of Cued Speech users were comparable to their hearing peers, and 2) Cued Speech users use the same parts of the brain, including the so-called "auditory" cortex, to process phonological information as their hearing peers. This study provides fMRI evidence that deaf individuals acquire phonological information comparable to hearing peers. It also suggests that deaf students process phonological information in the same parts of the brain as hearing individuals.

Above: Mouthshapes accompany all handshapes and placements enabling Cued Speech users to lipread more easily. *Reprinted with permission from Language Matters, Inc.*



Right and far right:

Alison Polk cues her daughter's name, Leah.



attempt to communicate. A cued English immersion environment supplies deaf children with two conditions that are needed for acquiring the traditionally spoken home language of their parents. Specifically, the child has clear, complete

visual access to the continuous phoneme stream and opportunities for interactions with fluent language

models. In theory, there is no reason that a deaf child immersed in an environment where the spoken language is cued should not develop competence in the home language comparable to that of hearing peers.



Research with both behavioral and fMRI methods has established that deaf individuals can acquire phonological abilities comparable to those of hearing peers. Further, deaf children from home and school cued language environments, including cued English, have already demonstrated English and reading competencies comparable to hearing peers.

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phonemic awareness through immersion

IN CUED AMERICAN ENGLISH

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By Kitri Larson Kylo

The Intermediate School District 917 Program for Deaf and Hard of Hearing Learners, a regional bilingual program in the south/southeast metro area of Minneapolis/St. Paul, Minnesota, develops English phonemic awareness and literacy through language instruction and immersion in cued American English. Access to American Sign Language and cued American English is provided through exposure to each language in different activities or settings. The determination of the language(s) of instruction occurs through the process of developing the child's Individualized Education Program or the Individualized Family Service Plan. A more in-depth description of our program's development, framework, program practices, and bilingual considerations is articulated in our Language of Instruction document (1997), as well as in articles by Kylo and Doenges (2001) and Crain and Kylo (2003).



Right: Clarissa Felixberger, 2nd grade, describes a block design using cued American English. In other educational activities, pps. 42–43, she uses American Sign Language. Both cued American English and American Sign Language communication are used in the Minnesota District 917 program. Photos courtesy of Kitri Kylo.

We believe that the use of cued American English in an immersion model:

- *provides the most visually complete access to the language of English in conversation,*
- *develops phonemic awareness and decoding skills, and*
- *results in high literacy levels in learners who are deaf or hard of hearing.*

We likewise believe that immersion in American Sign Language to achieve proficiency in that language is critical to the development and social/emotional well-being of learners who are deaf or hard of hearing.



Cued American English is a visual and linguistically complete medium to convey the language of English. It incorporates the visually discrete features of Cued Speech designed by Dr. R. Orin Cornett in 1966, including handshape, hand placement, movement, and mouthshape, and combines them with prosodic information conveyed via visually discrete non-manual features, such as head-thrust and brow movement, to convey the linguistic features of American English (Fleetwood & Metzger, 1998a; 1998b). Cued American English provides learners with varying degrees of hearing full access to the phonemes of English in natural discourse through vision.

Our program's practice of using cued American English to convey English is grounded in the belief that its use enables deaf and hard of hearing children to acquire an internalized mastery of English at the phonological level. This is necessary in order to acquire:

- the ability to *decode* the printed form of English, i.e., the letter-phoneme code, for reading; and
- the ability to *encode* the written form of English, i.e., the printed letter-phoneme code, for writing.

We believe deaf and hard of hearing learners can be bilingual in American Sign Language and English when provided the following components:

- access to adult language models who are fluent in American Sign Language and models fluent in cued American English,
- immersion in both American Sign Language and English via cued American English, and
- maximized language learning opportunities through both school and parent participation in a commitment to unambiguous language immersion in all settings (Kyllo & Doenges, 2001; Intermediate District 917 Program for Deaf and Hard of Hearing Learners, 1997).

Phonemic Awareness: Critical Skill for Reading and Writing

"Over the last two decades, phonological awareness, along with letter-sound knowledge, has been shown to be a strong predictor for the development of early decoding skills. It is ...the ability to segment words into individual phonemes, that seems to best predict students' reading abilities" (Apel & Swank, 1999). Additional research has identified early phonological awareness as a predictor of early print decoding ability (Ehri & Robbins, 1992) and early reading comprehension ability (Bradley & Bryant, 1983). The National Reading Panel likewise identified phonemic awareness as one of five key skills required to become a skilled and fluent reader in addition to the skills of phonics, vocabulary, fluency, and text comprehension (Armbruster, Lehr, & Osborn, 2001). A recent study of the reading abilities (Dyer, MacSweeney, Szczerbinski, Green, & Campbell, 2003,) identified tasks related to phonemic awareness and decoding as the best correlates of reading for the deaf students participating in the study.

Audition, Signs: Insufficient Access to English

The challenge for teachers of learners who are deaf or hard of hearing is how to provide an environment that promotes phonemic awareness. Hearing children are able to access the phonemes of a spoken language via the auditory channel through the medium of speech. For children who are deaf or hard of hearing, the auditory signal is absent or degraded and thus access to the phonemes of English via the auditory channel is absent or unreliable.

Manually coded signed English systems, while developed with the intention of making the English language visually accessible to learners who are deaf or hard of hearing, do not

convey English at the phonological level, i.e., they do not convey the basic building block units of the language—consonants and vowels. Moreover, these systems convey English deficiently at the morphological and syntactic levels (Fleetwood & Metzger, 1998a). Deaf and hearing children who are instructed in signed approximations of English are denied access to the phonemes of English in natural discourse.

Cued American English: Visual Access to English Phonology

Cued American English, however, provides complete visual access to the phonemes of traditionally spoken English in natural discourse, as well as information at all other levels of the linguistic hierarchy of English. Karen Stene Doenges, speech/language pathologist in the Intermediate School District 917 Program for Deaf and Hard of Hearing Learners, provides the following explanation:

Phonemes have historically been defined as acoustic events, i.e., the ‘sounds’ of a language, or simply, ‘speech sounds.’ The dictionary (Webster, 1984) defines a phoneme as ‘one of the set of the smallest units of speech, as the ‘m’ of ‘mat’ and the ‘b’ of ‘bat’ in English, that distinguishes one utterance from another in a given language.’

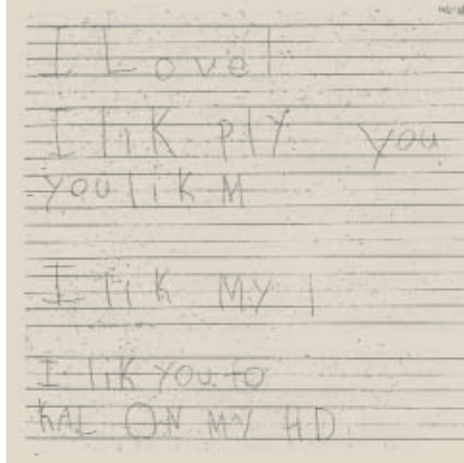
Cueing changes the way we define English phonemes. Phonemes remain the smallest unit of English that distinguishes one word from another, i.e., the consonant and vowel building blocks, but they no longer need be defined by acoustic characteristics or tied to the speech sounds of the language. Through cueing, the phonemes of English become a purely visual event. Cueing allows the deaf child full access to the phonemic code of English through vision alone. As a result, the way we define phonemes must change. English phonemes can be conveyed acoustically through speech or they can be conveyed visually through cueing. (2001, p. 1)

Support in Research

A growing body of research on Cued Speech and cued language is corroborating anecdotal findings that children with early exposure to cueing develop phonological awareness abilities on par with hearing peers (Leybaert & Charlier, 1996; Charlier & Leybaert, 2000; LaSasso, Crain, & Leybaert, 2003). Metzger (2002) cites additional research on the use of cued English,

Tessa's Spontaneous Writing, 1999

This example of Tessa's 2nd grade written language indicates limited knowledge of English.



cued French, and cued Thai that focused on prosody, language acquisition, and bilingualism. Other research has focused on literacy development (Metzger, 2002; Leybaert, 1993; Leybaert & Charlier, 1996).

Because the alphabet we use to read and write English uses letters to represent the phonemes of the language (unlike Chinese, which uses characters to represent whole words), knowledge of those phonemes is extremely valuable to readers and writers of English because it helps them learn the printed consonant-vowel code (letter symbols) by matching that code to the internalized consonant-vowel code they already know via cued English....Cued English represents the phonemes of English in

a purely visual way with no ambiguity, so children who are deaf and hard of hearing exposed to cueing consistently have complete, visual access to the phonemes of English. The 6-year-old deaf child who has been cued to for several years through natural discourse has figured out the phonemic code of English through unambiguous visual access just as a hearing child figures out the phonemic code through unambiguous auditory access. This means the deaf child exposed to cued English consistently can come to the task of learning to read and write with a level of phonemic awareness that is equivalent to that of a hearing child's. (Doenges, 2001, p. 2.)

Using the system of Cued Speech to convey English allows the deaf or hard of hearing learner full, unambiguous access to the phonemic structure of English via a sensory channel that is not impaired, i.e., vision. It provides the learner with little or no residual hearing equal access to the phonology of the language.

Critical for Reading

Hearing children use their auditory memory to learn which sounds (auditory phonemes) should be associated with which symbols (printed letters), which then enables them to “sound out” a printed word. ‘Cue kids’ use their visual memory ...to learn which visual phonemes to associate with which printed letters... This [phonemic] knowledge...allows the hearing child to ‘sound out’ printed words and it allows the deaf child to ‘cue out’ a printed word. The decoding process is the same, but accessed by different senses and memories...(Doenges, 2001, p. 3).

Tessa's Spontaneous Writing, 2002

This example of Tessa's 5th grade writing reflects the growth in her knowledge of English.

One day there was a family called the Dupont family. The Dupont family was bored and wanted to have fun, so they decided to get a pet, but they didn't know what kind they should get. The Dupont family thought and thought finally they decided to get a dog so they went to the pet store and looked at all of the puppies and dogs and they saw a cute puppy playing with a ball. They decided to get the puppy and paid for it and they brought it home. When they brought it home the Dupont family played with it and fed it and bought a bed for the puppy and when the Dupont family went to sleep the puppy fell fast asleep in its new bed, and the Dupont family lived happily ever after with their new family member.

Critical for Writing

The cueing child's knowledge of the phonemic structure of language also impacts his or her learning to write. Knowledge of visual phonemes results in the deaf or hard of hearing child's ability to write phonetically, sometimes making the same

phonetic mistakes that hearing children make.

Phonetically based spelling, often referred to by teachers as "invented spelling," is based on the child's knowledge of the phonemes. Phonetic spelling, such as *noz* for *nose* and *luv* for *love*, may be incorrect but it is viewed among reading teachers as desirable because it shows that the child has broken the code of letter-phoneme associations.

The written English of learners immersed in cued English reflects the language they already know. Their written English is 1) phonemically based, 2) semantically correct, i.e., uses appropriate vocabulary, 3) syntactically correct, i.e., uses correct word order and sentence structure, 4) correct in use of word endings, and 5) idiomatic, appearing natural, not stilted or formal (Doenges, 2001, p. 6).

Natural Acquisition is Key to Mastery

A language comprises much more than its phonemic building blocks. The manner in which those units are constructed and conveyed determines meaning.

Doenges (2001) writes, "There is little value in decoding the word 'coat' into the phonemes of /k/ /o/ /t/ if one does not recognize the phonological unit /kot/ as carrying linguistic meaning. Likewise, there is little value in being able to decode the sentence, *The private eye was talked into it by his fellow sleuths*, if one does not understand the vocabulary, grammatical construction, and figurative language contained therein."

Children who are deaf or hard of hearing have historically been exposed to English vocabulary, syntax, and figurative language through direct teaching efforts during their school years, whereby print has been used in an attempt to make the precise English words and word endings clear. The critical question is: "Do we learn a language effectively when the only exposure to an unambiguous representation of the language is provided through print?"

We know that hearing children typically bring an internalized knowledge of the language of English to the task of reading. Children who are deaf or hard of hearing typically do not. Whereas the skills hearing children bring to the reading and writing task in the areas of English syntax, English vocabulary, English figurative language, English phonology, English letter/sound association, and inference skills are typically well developed by the time they enter the early elementary years, the skills of children who are deaf or hard of hearing are typically limited.

For students exposed to sign systems, reading is a process of trying to match sight words with signs in their sign vocabulary. This sight-word approach is used to unravel the words on the

page that represent a language of which these learners only have minimum or partial knowledge. These learners are expected to learn to read English and to learn the language of English simultaneously.

Deaf and hard of hearing children who are immersed in English via cued English, on the other hand, acquire English vocabulary, syntax, English morphology, and idioms naturally through meaningful interactions with cuers of English. These words and structures are not taught through drill or direct instruction, but rather learned through conversations with people who cue to them. Their internalized knowledge of English phonology, syntax, morphology, vocabulary, and figurative language allows them to decode and predict words as they read. Cue kids are not learning the language of English while they learn to read; rather, they are learning to read a language they already know using phonemic decoding and linguistic closure strategies. Using cued English with deaf and hard of hearing learners enables them to acquire the language naturally and gives them both *the internal mastery of the English language and a phonemic awareness of the English language* like that of hearing children (Doenges, 2001).

Reading Level ≠ Language Level

Reading scores of signing versus cue kids start to look very dissimilar in third or fourth grade, even if they may appear similar in earlier grades. On-grade-level reading scores for

Reading Performance on Standardized Reading Inventory-2 Test

When Tessa was 11 years and 5 months old and in her second month of fifth grade, she achieved the scores below. At right, are her percentile ranks in both fifth grade and second grade.

Category	Age Equivalent	Grade Equivalent	5 th Grade	2 nd Grade
	SCORES	SCORES	PR	PR
Passage Comprehension	10 yrs-3 mos	4 th grade-5 months	25	25
Word Recognition	11 yrs-3 mos	5 th grade-5 months	50	37
Vocabulary in Context	11 yrs-6 mos	5 th grade-8 months	50	50

Average range for percentile ranks (PR) is 25-75.

young deaf and hard of hearing children in the early elementary years need to be interpreted carefully. Many readers immersed in American Sign Language or manual sign systems, where the consonant-vowel phonemic information of English is absent, learn to read using sight-word, non-phonemic strategies. At

approximately the third or fourth grade, the strategy to memorize words as whole units may start to max out because of visual memory limitations. The lack of familiarity with English phonemes, vocabulary, and syntax becomes a huge liability in decoding, predicting, and comprehending more complex sentences.

Readers immersed in English via cued English learn to read using phonemic strategies. They do not rely on a sight-word approach as their main decoding strategy. They have learned the alphabetic code/phoneme correlation between the printed

Language Performance on Peabody Picture Vocabulary Test-III

Testing conducted in English via cued English

Whereas Tessa's reading level appears to be in the average range for both second and fifth grades, her English vocabulary scores for second grade were significantly below average. Immersed in cued English in class, she made a five-year gain in vocabulary by fifth grade.

Date	Age	Grade	Age Equivalent	Percentile Rank
			SCORES	SCORES
Fall, 1999	8 yrs-5 mos	2 nd	4 yrs-8 mos	0.5
Fall, 2002	11 yrs-5 mos	5 th	9 yrs-1 mo	16

Average range for percentile ranks (PR) is 25-75.

letter and the English phoneme. They apply phonemic decoding strategies in an interactive manner with their internalized knowledge of the English language to decode the words on the page. They read on grade level in grades one, two, and three for a different reason than their peers who are not using phonemic strategies (Doenges & Kylo, 2001).

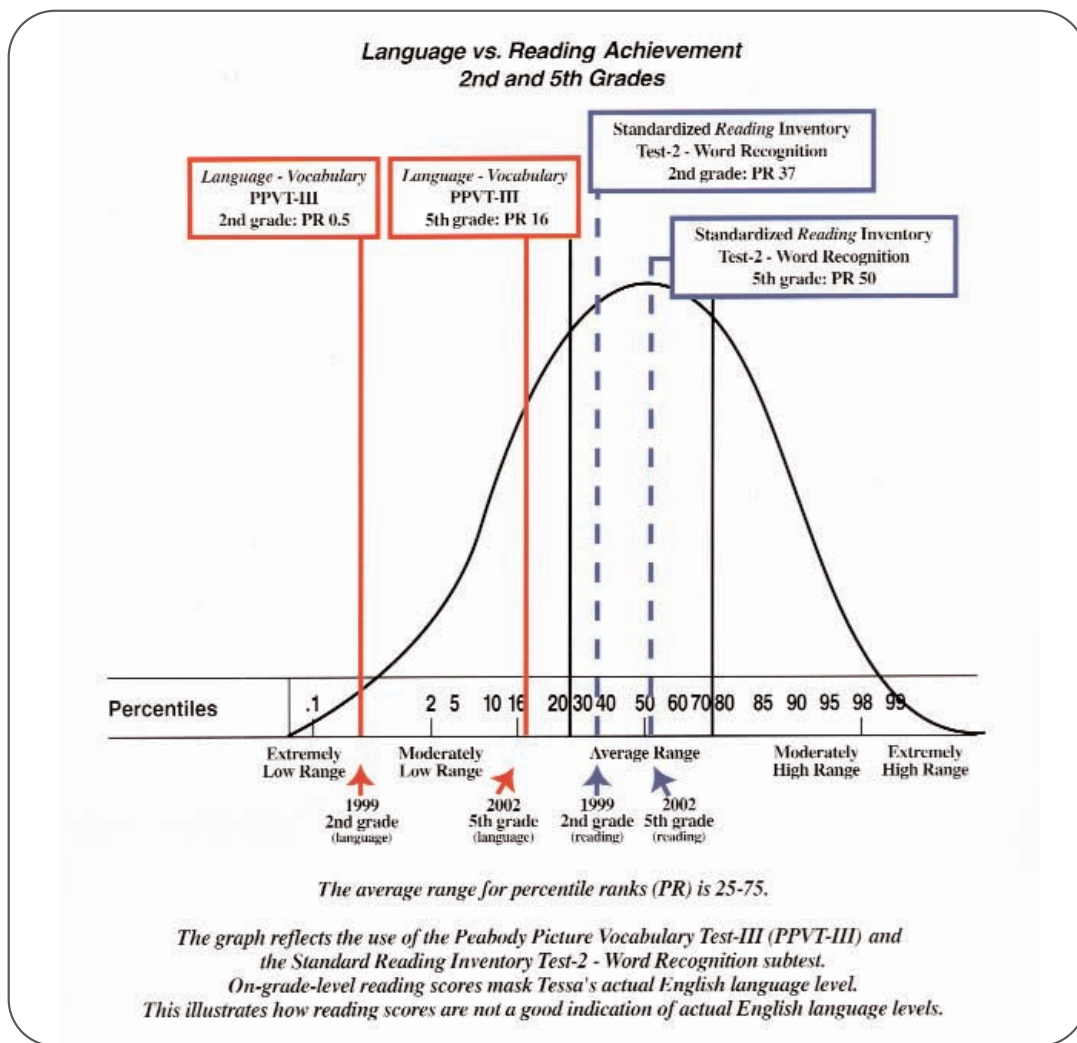
The situation where on-grade-level reading scores can mask actual English language levels is illustrated by Tessa, one of our students.

Tessa, who has a congenital severe-profound hearing loss, had on-grade-level reading scores in both second and fifth grades, but, when tested on English language measures using cued

English in second grade at age 8, was found to have the English language level of a 4-year-old. Tessa's parents and professional team decided to increase her immersion in English via cued English from two hours a day to the majority of her school day starting in third grade. She maintained this level of exposure throughout fourth grade. When Tessa was retested at the beginning of fifth grade, English vocabulary scores revealed a five-year gain attained in three school years. Significant growth in written English skills occurred as well. The gains in Tessa's performance demonstrate the effectiveness of immersion, natural language learning, and effective language instructional practices.

Assessment of English Achievement

Measurement of student achievement is conducted using formal and informal measures on a yearly basis in the District 917 Program for Deaf and Hard of Hearing Learners, as well as during the federally required three-year special education reevaluation process. The program is currently utilizing the following formal measures normed on hearing students in addition to other formal and informal measures to assess



receptive and expressive English language development and reading achievement: *The Test of Auditory Comprehension of Language-Third Edition* (Carrow-Woolfolk, 1999); *The Clinical Evaluation of Language Fundamentals-Third Edition* (Semel, Wiig, & Secord, 1995), *The Peabody Picture Vocabulary Test-Third Edition* (Dunn, Dunn, & Dunn, 1997), the *Cottage Acquisition Scales for Listening, Language and Speech* (Wilkes, 2001); and the *Gates-MacGinitie Test of Reading* (MacGinitie & MacGinitie, 2003). All tests measuring English competency are administered in English via cued English (Crain & Kylo, 2003).

Rethinking English Immersion as a Prerequisite to Literacy

I believe that the field of deaf education must first acknowledge and address the prevalent situation of ambiguous and absent access to natural English language acquisition inherent in the majority of current educational linguistic environments for deaf and hard of hearing learners before it can enter into discussions of "best practices in reading" and address the issue of the acquisition of phonemic awareness skills in deaf and hard of hearing children. It is premature to talk about reading



development and strategies absent from the creation of linguistic environments that allow deaf and hard of hearing learners to acquire an internalized mastery of the English language before coming to the task of reading and writing.

Access to English via Cued American English: “All or Nothing”

It is important to note that our program views the use of signs and cues as vehicles for exposure to specific languages. As this relates to the use of cued American English, the Intermediate District 917 Program for Deaf and Hard of Hearing Learners recognizes the need to emphasize and define ‘sufficient early exposure.’ The program maintains that phonological awareness of a traditionally spoken language can best be established when a deaf or hard of hearing child is immersed in a language-rich environment that uses cueing to make the linguistic information of that language visibly accessible. The program’s use of cued English contrasts with other programs that may incorporate the use of cueing for English phonics, phonemic drills or spelling, as opposed to the use of cueing for broader access to English in conversational and other instructional contexts for a significant portion of the school day. Programs incorporating cueing on such a sporadic and isolated basis may indeed erroneously conclude that the use of cueing does not work to achieve English proficiency, even if such drills are used on a daily basis, due to failing to recognize the degree of sufficient early exposure and immersion necessary to acquire proficiency in another language (Crain & Kylo, 2003).

Shifting Paradigms: Betrayal or Maximizing Potential and Opportunities?

The use of cueing with learners who are deaf and hard of hearing cannot be discussed without acknowledging the emotional and personal reactions its use causes. Admittedly, I was one who initially was very uncomfortable with the idea of using Cued Speech with children who are deaf or hard of hearing. Its existence was never mentioned during my pre-service teacher training program. The use of Cued Speech to convey the language of English was not part of my earlier experience working in residential deaf school settings and I did not encounter it during my work as a certified sign language interpreter. To me, the system initially looked odd and unnatural. Its existence was very much at odds with my perspective on what the educational and linguistic environments for deaf children should be.

At a later date, however, when we—my colleagues and I—were faced with the data that deaf children immersed in English via cueing were consistently achieving higher literacy levels in English than deaf children in other programs, we determined that we had to put our attitudes of bias, ridicule, and skepticism aside. If literacy in English was possible as a result of immersion via cued English, we concluded such bias and ridicule was inappropriate and self-serving. Changing the paradigm regarding the language of instruction in the District 917 program was an emotional and difficult task and it did not occur overnight. We concluded, however, that we could no longer participate in practices that resulted in deficient language-learning environments for learners who need visual

access to English and that contribute to the legacy of underachievement of many bright and talented deaf and hard of hearing individuals.

There are many highly literate, highly educated, and successful adults who are deaf or hard of hearing and who acquired their English literacy skills without exposure to cued American English. The existence of such individuals is often used as an argument against considering the use of cueing. The critical question I believe the field must address, however, is: What linguistic educational environment will provide visual, linguistically complete, unambiguous access to the language of English for the majority of children who are deaf or hard of hearing on a consistent basis so that the barriers and struggles to acquire English skills are considerably minimized?

Language learning for children who are hearing, deaf, or hard of hearing should not be a struggle. Therefore, if there is a visual means available for deaf and hard of hearing learners to acquire English skills, as well as skills in American Sign Language, at an early age following an age-appropriate developmental sequence and through natural discourse, then it is incumbent on the field of deaf education to focus attention on and consider such a means in the immediate future.

Myths on All Sides

For many practitioners in the field, there is a sense of betrayal in using Cued Speech due to the myths and misconceptions surrounding its use and due to the fear that its use threatens the use of American Sign Language. There is a prevalent misunderstanding that the use of cueing is dependent on the use of speech.

On the other hand, practitioners from oral/aural approaches believe that the use of cueing creates a crutch of visual dependency that hinders the development of auditory and speech skills. We maintain and observe that the provision of cueing has the opposite effect. We observe that cueing provides the phonemic information missing or deficient in the auditory signal for learners who are deaf or hard of hearing, which we believe is important for learners who are learning language. This allows for a complete mapping and internalization of phonemic and linguistic information of English in the brain. We believe that this ability to make linguistic predictions based on an internalized knowledge of this language promotes rather than hinders the development of speech and auditory skills.

Another prevalent myth in the profession is the belief that concepts can only be conveyed visually to learners who are deaf or

hard of hearing through sign language. The many examples of successful young adults who were immersed only in English via the system of Cued Speech in conversational English at an early age are testimony to the fallacy of this belief. These individuals learned high-level and abstract concepts quite successfully while simultaneously learning and internalizing the language of English (Beck & Cornett, 2002).

At the District 917 program, we know that learners who are deaf or hard of hearing are capable of being bilingual in two very visually distinct languages, just as hearing children are able to be bilingual in auditorially distinct spoken languages. Rather than believing that deaf children are being deprived of American Sign Language by immersion in cued American English, the District 917 Program believes that these learners are being afforded opportunities to meet their language, academic, and vocational potential while simultaneously experiencing a linguistic learning environment to acquire proficiency in American Sign Language and English.

Choices in Deaf Education:

Paradigm Paralysis or Paradigm Pliancy?

Practitioners in the field of deaf education have choices to make. The status of underachievement among the majority of learners who are deaf and hard of hearing in our country continues to exist. The negative impact on academic and vocational opportunities and performance for many learners as a result prevails. Against this backdrop, the field can choose to look at the growing body of research on the powerful tool of cued English and its success in providing English language proficiency, phonemic awareness, and literacy for learners who are deaf or hard of hearing.

I believe that there is a critical and immediate need to examine the linguistic educational environments in which deaf and hard of hearing learners are expected to acquire English

language proficiency and literacy. In addition, there is a need to shift current paradigms to include strategies that make natural language acquisition of English possible at an early age in a developmentally appropriate sequence similar to hearing children.

It is critical that educators in the field of deaf education not lose sight of the prerequisites for natural language learning and seek to address the development of phonemic awareness skills in the context of immersion in English via means that provide unambiguous linguistic access to the language.



This article is dedicated to the memory of Dr. Orin Cornett, inventor of the system of Cued Speech, who passed away in December 2002.

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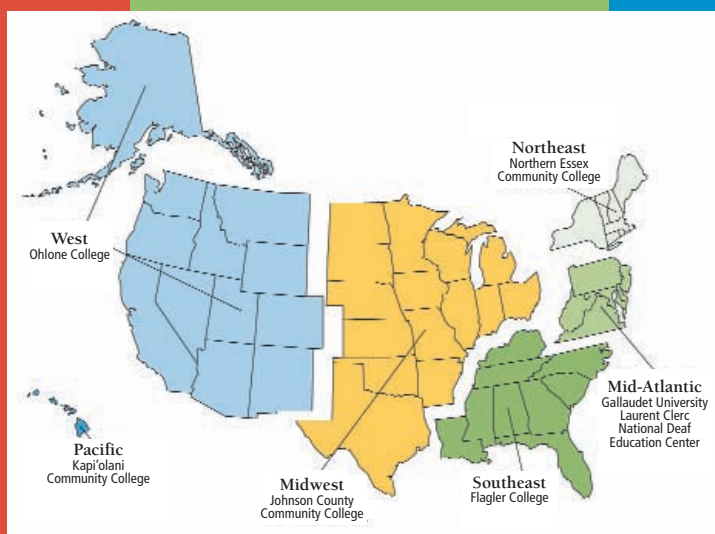
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cued speech & american sign language

go hand in hand for me

FIRST PERSON

By Harry Wood

Harry Wood, a teacher at the Virginia School for the Deaf in Staunton, wrote this while teaching at Kendall Demonstration Elementary School in Washington, D.C.

Growing up with Cued Speech, the phonetically based visual communication system created by Dr. Orin Cornett, has had a significant impact on my life in more ways than I can count. I cannot list the many influences here, but I can tell you with 100 percent certainty that without cueing, I would not be the person I am today. However, I can also tell you with 100 percent certainty that without American Sign Language, or ASL, I would not be the person I am today.

Academic Life

When I was 21 months old, my parents discovered I had a profound bilateral sensorineural hearing loss that had most likely existed since birth. They were distraught, as any hearing parents would be. However, once they got over the initial shock, they became very determined to find a way to help me “survive in a hearing world” and in order to do that, they wanted me “to speak if possible.” They set out to explore their options at the time (the year was 1977). They only knew about the oral method or sign language. They did not know about cueing yet. They decided to place me in an oral program in Montgomery County, Maryland.

After one year of struggles and no progress, and a suggestion from my preschool teacher that a visual system could possibly help me, my parents learned about cueing. After seeing it in action and talking with parents of deaf children using cueing, they were very impressed by it. They liked the potential for me to learn “language, vocabulary, and reading development, in addition to speech.” So they switched me to the cueing program in the same county.

Even though I picked up cueing very quickly, the first few years were a struggle academically. I hated reading, even though I could do it, and I gave everyone a hard time with paying attention: teachers, transliterators, my folks, and any other professionals who worked with me. I did go through a lot of speech training, and I vividly remember my speech teachers from elementary school through high school. At the time, I enjoyed the teachers I had, even though the training and the repetitions always frustrated me. I spent all of my school days mainstreamed with cueing transliterators, with a little bit of time every day in a self-contained classroom.

I always did well in school, succeeding on both spelling and reading tests. However, I did not enjoy reading. It is not that I could not do it; on the contrary, I thought it was very



easy. I simply did not like it. Suddenly, in the sixth grade, my teacher, Ms. Duranko, showed me how much fun reading can be. Reading became so exciting for me that soon I was buried in books constantly. I remember reading the Hardy Boys with so much enjoyment to the point that I would read with a light on in bed when my parents thought I had gone to sleep (Sorry, Mom and Dad!). My parents could not buy books fast enough for me to keep reading! With this enjoyment, unbeknownst to me, my English vocabulary and reading comprehension skyrocketed.

In middle school, I began to pick up sign language very slowly, but surely. I continued to use cueing as my main mode of communication, especially in the classroom. I maintained this direction until my junior year of high school, when I began to use a sign language interpreter due to a lack of transliterators and conflicting schedules at the time. By then I had become confident enough to accept this change from the coordinator for one class every day until my graduation. At Wichita State University in Kansas, I used a sign language interpreter full time since, at that time, cueing was not known in that area. I had no problems academically in college (aside from boredom in some lecture classes) and graduated cum laude. I eventually went to Gallaudet University, where I was fully immersed in American Sign Language, and I earned an M.A. in elementary deaf education.

Family Life

My parents, despite the initial shock at discovering my hearing loss, endeavored to equip me for a future in the hearing world. They were very resolute in their expectations of me as well. They always encouraged me, never letting me use my hearing loss as an excuse for failure, and always cared for me in the best way they could.

My mother learned cueing, but my father never did become proficient at it. None of my other family members ever learned it. In my earlier years, I

communicated mostly with my mom because she could cue and I understood her all the time. Conversations with my dad, brother, grandparents, uncles, aunts, and cousins were through lipreading. I had become quite a skilled lipreader at a young age, thanks to my speech training, and improved with each passing year.

Although I have no recollection from my youngest years (or any year because, if you know me, then you know I have a terrible memory!), my parents tell me that my mother cued bedtime stories to me all the time and that I always enjoyed them. They even say that I begged my grandmother to read to me even though she never knew how to cue. It was not easy at family get-togethers since I could only do one conversation at a time. Many times the conversations were overlapping and I could not follow any of them. I often resigned myself to watching television, reading books, or finding other ways to entertain myself. This is one area that I am very sad about, but I know that I really could not do much in that situation. I would have loved to get to know everyone in my family in deeper ways and still am striving to do so today.

At the end of middle school, my family and I slowly made the transition from cueing to full-time lipreading. Currently, my mother only uses cueing as a supplement when I struggle to understand a certain word or sentence. I still do miss a lot if there are many people talking at the same time, but I have come to accept this as one of the obstacles I face in my daily life.

Social Life

Growing up in a cueing-only program, I had only deaf friends. Although I did talk with my hearing peers, I never really became good friends with any of them. In middle school that changed, however. At that time, I was the only person in the middle school who knew how to cue. I told myself that I had to learn sign language if I wanted to make friends. So I slowly picked it up by

socializing with my sign language counterparts. For me, that opened up another world that I had not yet experienced. By the time I graduated from high school, I had made many more friends through sign language. I was able to find people who had experiences similar to mine growing up and could connect with them. I now consider myself a fluent ASL user.

I met my lovely and intelligent wife, Lacey, who is hearing, at Gallaudet University in graduate school. We mainly use ASL in all our conversations, although sometimes I talk with her instead of signing. I am teaching her to cue and pretty soon she will be good, I know. I speak all the time with her family since they do not know cueing or sign language. I face similar struggles with them as I do with my own family.

Today, I do not use cueing a lot. However, with those friends that know only cueing, I am glad to use it. With friends that know both cueing and sign language, we choose to use sign language because we feel it is so much easier and expressive of our true selves. As for the “world out there” that my parents wanted me to survive in, I believe I do. Nonetheless, I know I face the same obstacles and struggles that many deaf people do. I sense this will always be the case for deaf people everywhere, no matter how much cueing, sign language, or oral training is gained.

Looking back on my life, cueing has provided me with many opportunities by allowing me to gain access to the English language through reading, vocabulary, and comprehension, consequently leading to increased accessibility and survival in the majority hearing world. ASL has provided me with more opportunities to meet deaf people, communication with friends, meaningful relationships, a chance to participate in rich culture, and a sense of identity.

** I refer to the system of Cued Speech as “cueing” because it is not necessary to learn speech to be successful with cueing.*



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Hawaii.

my experience communicating via cued speech

FIRST PERSON

By Ami Tsuji-Jones

Cued Speech definitely helped me communicate with my mom and my sister. Those years when we used Cued Speech were wonderful because I could ask questions and express my needs and wants. Also, we were able to bond.

My dad didn't really learn Cued Speech. My mom and my sister, who is five years older than I am, were proficient at Cued Speech, just as I was. I honestly wish we used it now. We haven't used Cued Speech for years. My mom still uses about three to five Cued Speech handshapes. I remember only a few. If we had continued with Cued Speech, our communication would be much easier and smoother.

Did Cued Speech help me in school? It depended on the teacher and his or her proficiency. Some teachers struggled; others had no problem.

Cued Speech helped me learn to read and write because it enabled me to communicate with my teachers and family. It also helped me visualize pronunciation and associate it with words. When a word was long, I would visualize it in my mind and try to "sound it out." Cued Speech was like a tool.

It may sound funny, but Cued Speech was like signing, too. Actually, the purpose of Cued Speech, I think, is to teach deaf children to lipread and be able to pronounce. I often wonder: If we had continued to use Cued Speech, would I have been able to understand what *death* meant at a younger age? I had to see my cousin in a coffin when I was 16 years old to really understand *death*.

Poor mom. She learned Cued Speech, then Seeing Essential English, then Pidgin Sign English, then American Sign Language in such a short time. She thought that Cued Speech was easy and that signs were hard to remember. She enjoyed cueing. She felt that she could

Right: Ami Tsuji-Jones
and her son. *Photo*
courtesy of Ami Tsuji-Jones.



not sign fluently. I think if she had stayed with American Sign Language for more than a few years that she would have learned it.

People told mom that signs in any form were bad, and that they would keep me from learning English. So mom had a negative view not only of American Sign Language but also of any sign language system.

I wish that I had learned American Sign Language at a young age and not waited to learn it until after I had

graduated from high school and attended Gallaudet University. It's my language, the only one I'm comfortable with. When I learned American Sign Language, it was like being freed. I could express myself; I could *be* myself.

I remember that one of my teachers knew both sign language and Cued Speech. She would use Cued Speech primarily because that's what the principal told the teachers to use. But when one of us didn't understand, she would switch to sign language and

explain the same thing, and we were able to get it.

When they stopped using Cued Speech at school and wanted us to learn how to sign Seeing Essential English, our communication problems increased. So did our frustrations. We often went back to Cued Speech. It got too confusing for my mom, my sister, and me. But Cued Speech gave my family and me the ability to communicate with each other, and we were grateful for that.

Sam Supalla, Ph.D. is an associate professor at the University of Arizona. His focus is on understanding and meeting the linguistic needs of deaf children through both research and program development. His work has been funded by the National Institutes of Health, the U.S. Department of Education, and the James S. McDonnell Foundation.

Laura Blackburn, Ph.D., received her doctoral degree in deaf education, with a focus on leadership, from Gallaudet University. She coordinated a teacher-training program and has significant K-12 classroom and teaching experience. Dr. Blackburn's well-rounded background has helped her develop easy-to-use, scaffolded lesson guides and assessments to support teachers in the classroom.

Drs. Supalla and Blackburn are co-founders of Signs of Success, LLC. For more information, contact them at: signsofsuccessllc@hotmail.com.

learning how to read and bypassing sound

By Sam Supalla and Laura Blackburn

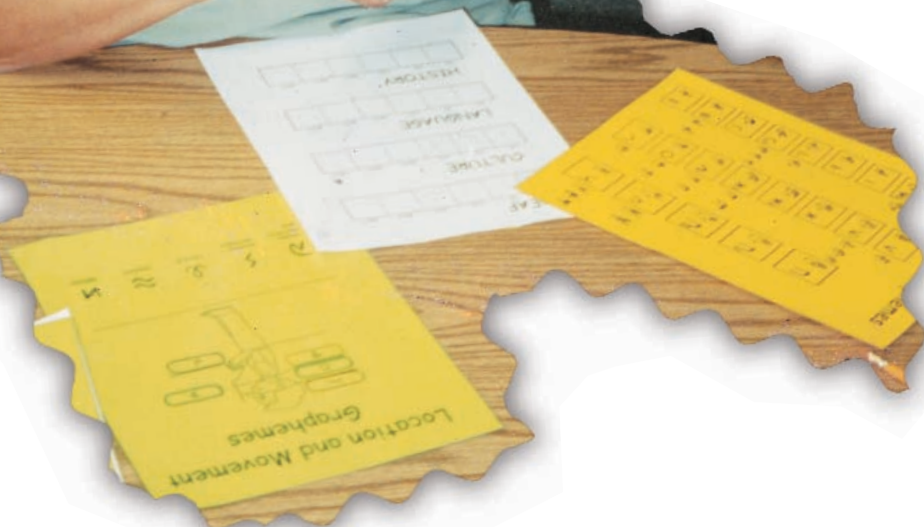
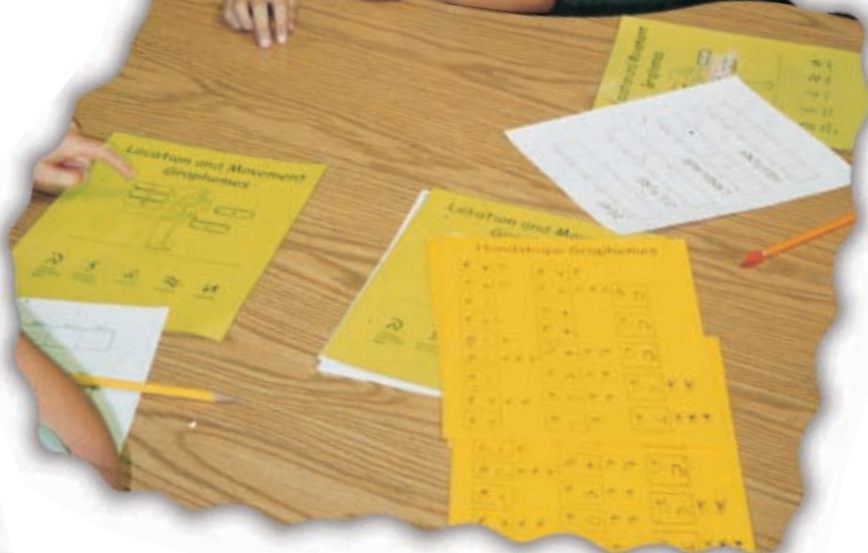
For signing deaf students, we encounter a unique linguistic situation. American Sign Language and English are not simply two languages. They are languages that rely on separate modalities, one in hearing, the other in sight (Singleton, Supalla, Litchfield, & Schley, 1998). In this sense, hearing students enjoy at least two advantages compared to deaf students in learning how to read. For hearing students, the text is consistent with the way they speak. Further, they can use a system of phonetic skills to decode individual words and discover their meanings. Deaf students, on the other hand, are confronted with sentences that are constructed differently from what they sign. There is a gap between the deaf student's knowledge—his or her competency in American Sign Language—and how print represents English, a language that he or she cannot hear.

At Laurent Clerc Elementary School, a charter school in Tucson, Arizona, that operated for six years, we used a reading process that incorporates five big ideas that link American Sign

Language to English. Hearing students, especially those born to deaf parents who were growing up in signing environments, attended and experienced our reading formula as well. The hearing and deaf students experienced a common ground of learning how to read without relying on sound. Instead they relied on American Sign Language to develop reading skills in English.

Right: Parents, involved heavily with their children's learning, attended a workshop.





**Scenes from
a classroom:**

Clerc Elementary
children worked
together, with each
other, and with their
parents as they
learned to read
through use of
American Sign
Language.

How then did we teach signing deaf students how to read?

Phonological Awareness **Exploring Structure**

Through American Sign Language, we can expect a deaf student to achieve the critical prerequisite of a strong language base (Meier, 1991; Newport & Meier, 1985). Kindergarten through third grade is considered a critical time for learning how to read. If a student does not engage in a reading program that works, he or she may not reach the next stage where he or she uses reading as a tool to learn. This stage occurs at the fourth year and continues through the rest of the student's school experience. (Carnine, Silbert, & Kameenui, 1997)

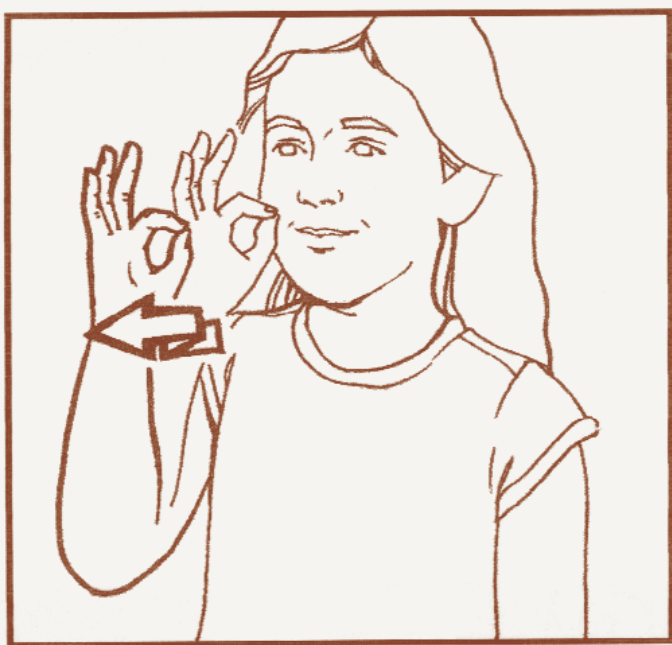
Developing phonological awareness, the first step in learning to read, occurred easily with Clerc students when they became aware phonologically of

their own signs and sign language. At the beginning of every school day, the students sang songs. One of the songs, meant to develop respect for the code that teachers use to get attention from the class, focused on the flashing lights. The wording was rhythmic, with repetitions of signs and patterned use and blending of handshapes, movements, and locations in the signing space. Within the structured language of song, students are unaware that they are learning how to decode sign components by blending them together and segmenting them apart. The students



recited the song and sang it enthusiastically. As they did so, the formalized and systematic use of language fostered the awareness that would prepare students for an American Sign Language alphabet and gloss conventions in use at the school (see Supalla, Wix, & McKee, 2001, for a description of American Sign Language-based literacy tools).

↓ ∪ ∩ ∩



The Alphabetic Principle **Words into Print**

When Clerc students began to examine print, they learned the American Sign Language alphabet. This has traditionally meant fingerspelling—the representation of printed letters through handshapes in space. But for our students, we developed the ASL-phabet, a series of characters representing the handshapes, locations, and movements of signs in American Sign Language. As students learn the ASL-phabet, they are able to link their own language to print on the page in small and manageable

Left: An illustration from the materials shows the sign and its ASL-phabet “letters.”

The English translation for this sign? *Cat*.

- ↓ ∪ = handshape is *F*.
- ∩ ∩ = location is near the mouth.
- ∩ ∩ = movement is away from body.
- ∩ ∩ = movement repeats.

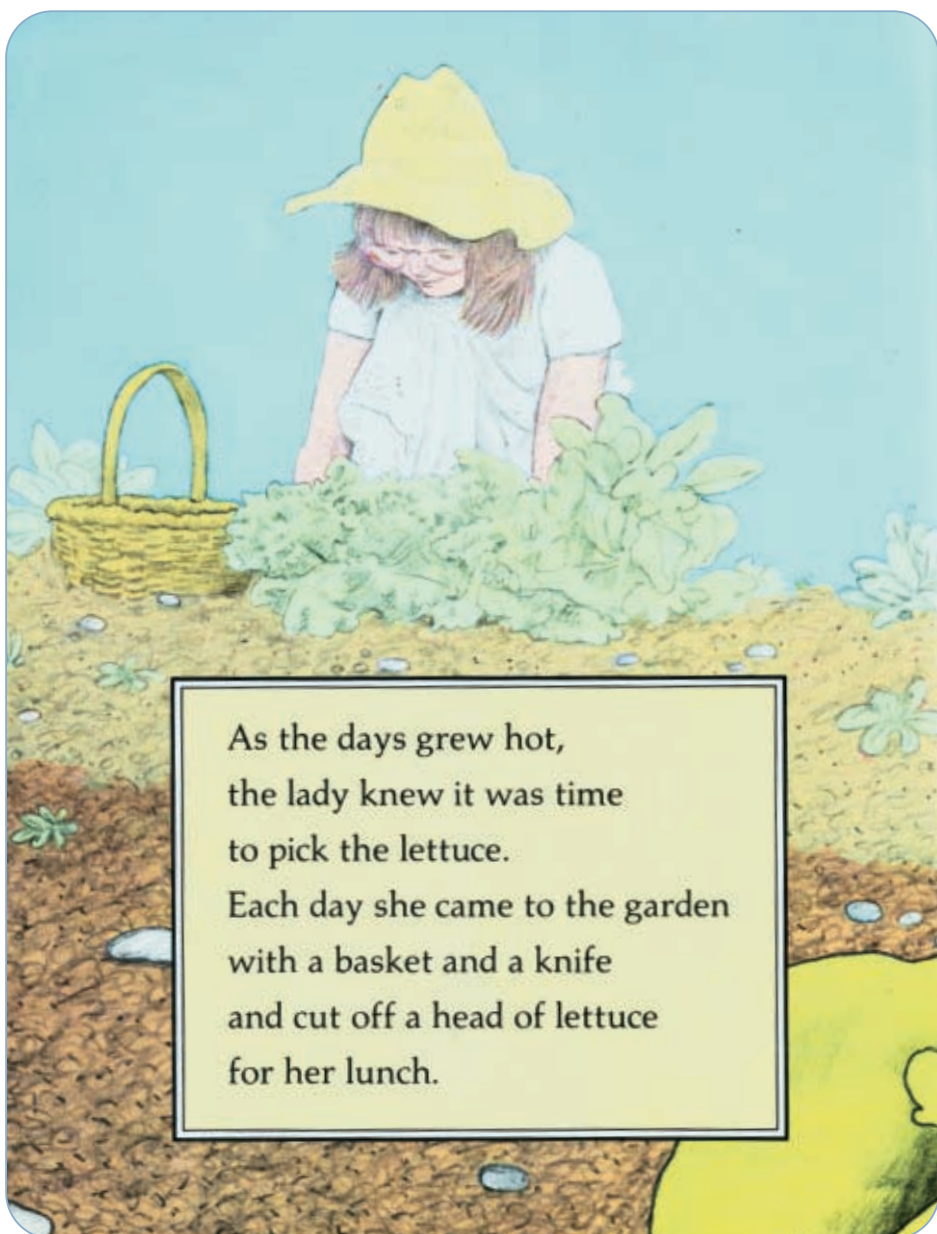
Right: A page from *The Lady and the Spider*, by Faith McNulty, one of the children's books for which students could see a gloss text for the sign translation, with gloss translation below. From *The Lady and the Spider*, 1986, Harper & Row Publishers.

components. They can use the structured print as building blocks to make signs or words. The phonemes—or pieces of signs—that they previously organized through the air are now introduced as individual letters that will be used to construct written signs.

With the ASL-phabet, deaf students link their own language to print on the page and express their linguistic knowledge in print for the first time. They begin with small, manageable components that we call letters. These letters become building blocks to make words as they are expressed in American Sign Language.

The ASL-phabet has 22 handshapes and five representations for location categories. Knowing the ASL-phabet provides the basis for another basic reading skill that helps students to develop fluency with the decoding process to support spelling and vocabulary retention. As they master identification of the handshape and location letters, students begin to blend the five movement letters. At this point in learning to read, students are actively making sense of the decoding process, signing out and segmenting words as they encounter them written in the ASL-phabet on paper.

The Resource Book is a literacy tool that links signs written in the ASL-phabet to their English word equivalents. It allows the deaf students to decode a written sign, while simultaneously introducing English vocabulary and reiterating the steps of the decoding process. While students decode printed signs, they are simultaneously introduced to English vocabulary. As they continue to use *The Resource Book* and reiterate the decoding process, the English and sign print become familiar to them. At this point, the code presents itself to be solved so



DAY# GROW HOT, LADY KNOW IT-IS-TIME (2h) *1-PICK#
LETTUCE. EACH DAY IX=3 1-COME GARDEN WITH
BASKET KNIFE [*1-LETTUCE 11-CUT] FOR EAT+NOON.

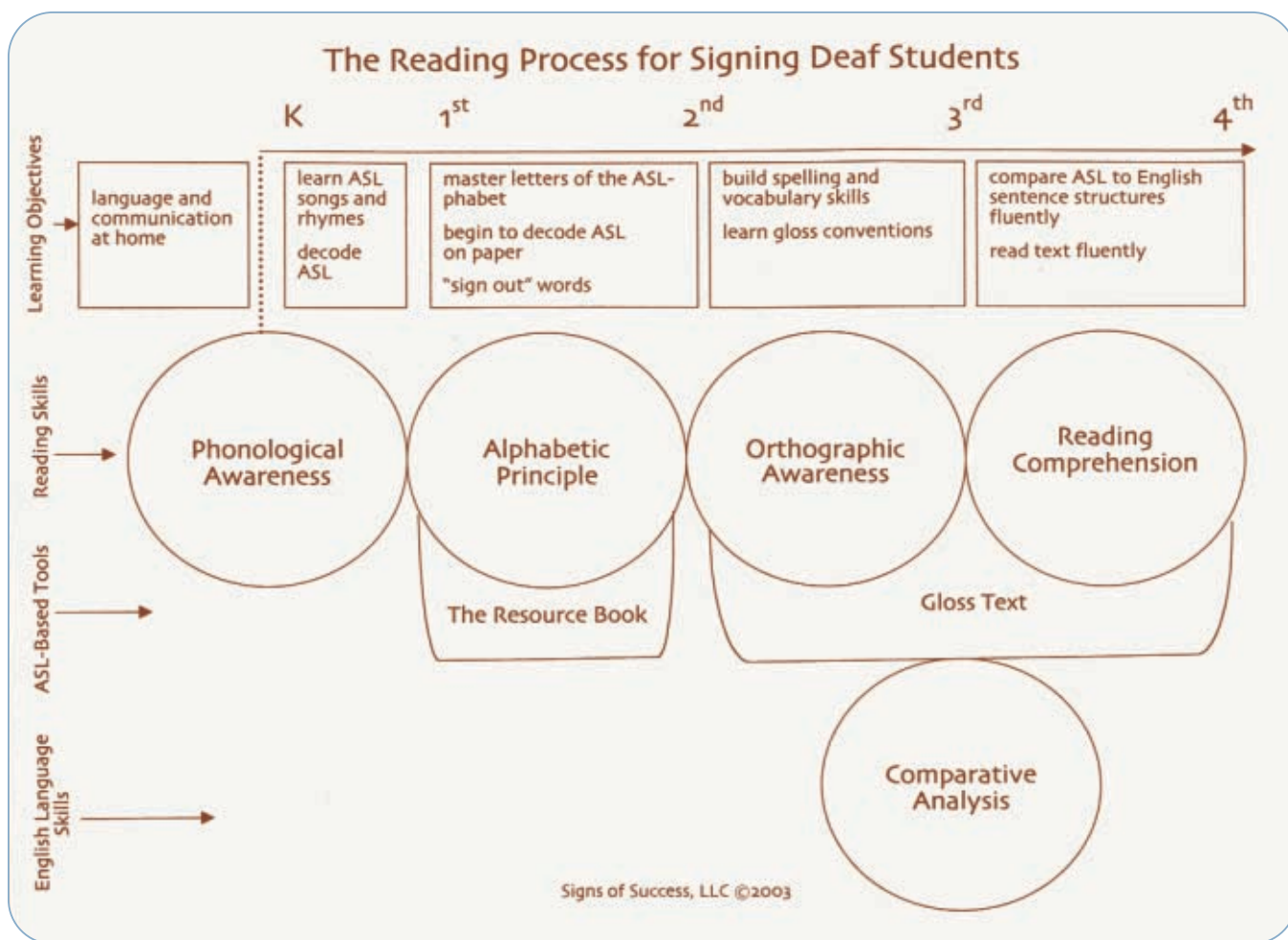
that students can move from merely identifying parts of their language on paper, i.e., the phonemes, morphemes, and lexicon, to engaging these components with one another in order to read.

Each reading skill is associated with a selected set of learning objectives. Specific tools, based in American Sign

Language, are used to support the learning-to-read process, from reading signs through the air, to reading signs in print, to reading English alone.

Orthographic Awareness Priming for Literacy

At the sentence level of the learning-to-read process, deaf students use a gloss



text. Gloss has been used extensively in American Sign Language instruction in university and college settings. Our students use it as an intermediary writing system that includes American Sign Language grammar and English words to connect their signed sentences with those that are printed.

Language control occurs when students' language corresponds directly to the text. This match enables students to monitor the accuracy and fluency of their reading based on how they sign as they read "aloud." As students exert control of the language, they are able to apply standard reading skills to text written at varying degrees of complexity.

Thanks to the gloss text, for the first time deaf students experience successful reading because their signing matches the text on the page. Moreover, teachers can monitor students' abilities because of the print-to-sign correspondence. Miscue

analysis and other commonly used measures of reading progress become beneficial.

Reading Comprehension Exercising Skills with Fluency

This critical idea in the reading process, where deaf students become comprehenders of text, students combine previously acquired subskills to decode words in context using gloss text. Higher reading rates or fluency are indicative of students who possess an accomplished vocabulary and who eventually become independent readers.

These students have internalized the alphabetic principle, attained automaticity at the word level, and are able to apply this across the gloss text. In essence, they can cognitively connect reading knowledge from gloss text to English print. In contrast, in traditional settings neither teacher nor student has

the tools to monitor the signing of text while it is being read because the language he or she is using does not match the English print. This discrepancy interferes with the ability to monitor errors, resulting in a breakdown in the reading process (see Clay, 2001).

Comparative Analysis

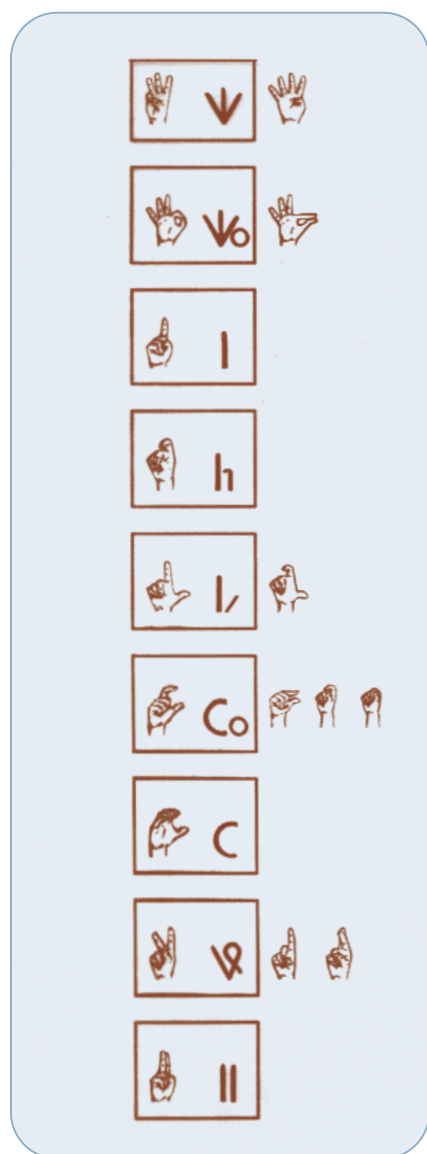
English structures remain to be taught. We do this through comparative analysis. In comparative analysis, gloss is paired with English text and guides students through a process of systematic comparison of structures in a scaffolded scope and sequence. The next level of comparisons occurs when students learn sentences that are represented differently in American Sign Language and English print. Finally, there are certain English vocabulary and structural items for which there is no American Sign Language equivalent. These concepts are taught

through lessons that utilize grammar in a variety of contexts. This activity allows students to engage in metalinguistic and metacognitive processes. An advanced form of contextual analysis, it is the big idea to bypassing sound in the reading process.

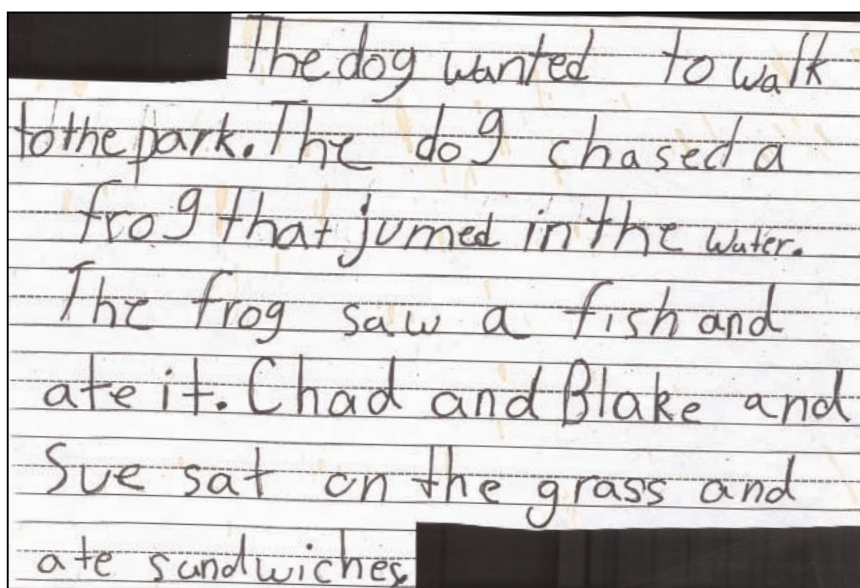
Future Considerations

Materials for All

With the closure of the Clerc school last year, we have turned our attention to making our curriculum and materials widely available. We established Signs of



Above: A sampling of handshapes and the ASL-phabet "letters."



Above: After writing in gloss first, a Clerc student wrote an English translation.

Success, a vehicle through which we can train teachers and parents and share our tools, the *Gloss* text, the *Resource Book*, and how we incorporate the strategy of comparative analysis.

One of our former students initiated a due process in the Flowing Wells Unified School District in which the court ruled that she be able to continue using this curriculum as part of her

work in public school. Apparently, our courts have recognized that a deaf child has the right to a methodology designed to bypass the sound barrier and link American Sign Language to English via the process of reading.

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Gary Wellbrock, M.A., teaches kindergarten at the American Sign Language and English School, public school #47, in New York City, where a dual-language program for deaf and hearing children was implemented in the late 1990s. Wellbrock is also enrolled in the Hello Friend/Ennis Cosby Graduate Certificate Program at Fordham University, with a focus on teaching at-risk readers.



INCORPORATING PHONICS INTO AN american sign language and english program

A CONVERSATION

By Sara Schley and Gary Wellbrock

In the dialogue below, two educators explore the incorporation of phonics into the American Sign Language and English School for deaf and hard of hearing students (public school #47) in New York City.

Spring 1998

The conversation begins.

SARA SCHLEY (SS): I am interested in how literacy emerges in deaf children who are schooled in an American Sign Language/English program.

GARY WELLBROCK (GW): Yes, I am really excited by the dual-language approach we are taking.

SS: What are you doing to implement the new standards from New York City's Department of Education?

GW: In every grade, students have to read 25 books during the year (New Standards, 1997). At the American Sign Language and English School, we're developing Literacy Packs, a coordinated list of books for each grade, and a companion pack of activities and materials for each book (Wellbrock, Schley, & Davidovits, 1999).

SS: What other kinds of things do you do to get your kindergarten students going with literacy, especially in working on pre-literacy skills like letter identification?

GW: One example is that we focus on one letter per week, with many different activities surrounding each letter (Schley & Wellbrock, 1999). This involves children authoring and illustrating their own picture dictionaries page. By the end of the year, they have a complete picture dictionary. Also, each week I hang a large and decorated paper letter from the ceiling. The letters are displayed all year long, becoming clues for children starting to link the letters to reading.

SS: Research shows that deaf students who are proficient readers may code English at the phonological level (Hanson, Goodell, & Perfetti, 1991). It's not yet clear how they do this, but it doesn't make sense to ignore the phonemic level of English during literacy instruction. I think your letter unit goes in exactly the right direction.

2003—

Gary, now taking classes in teaching reading to at-risk students at Fordham University and bringing phonics instruction back into the classroom at the American Sign Language/English School, continues the discussion with Sara.

GW: I think I've been doing some phonics instruction in class, but it would be phenomenal if I could apply more of what I'm learning. For fall 2003, the New York City Department of Education has adopted Patricia Cunningham's Month-by-Month Curriculum (Cunningham & Cunningham, 1992), in which whole language principles and teaching of phonics are combined in the teaching of beginning reading. The curriculum includes guided reading, self-selected reading, writing, and "making words"—an active, manipulative series of activities that teach children how to look for patterns in words (i.e., how sometimes by changing just one letter, or placement of a letter, they change the word). We've been spending a lot of time figuring out how to incorporate that curriculum into ours. Parts are easy. I use a *Word Wall*, a display of high frequency words with new words added each week, and it works well (see Kreul, 2003). It helps students remember how to spell words.

SS: How do you explore phonics with a mixed deaf and hearing group at the American Sign Language/English School?

GW: One activity, *The Name Game*, draws the students' focus to the initial sounds of words. This game unfolds like a TV game show. I choose students, one at a time, as contestants. Students come to the front of the room, introduce themselves to the audience and to me, and wave to the folks at home. After each contestant spells his or her name, I write it on the board and underneath I write the name again minus the first letter. The contestant chooses another student who picks a letter of the alphabet to replace the missing letter (i.e., "Sam" becomes "Bam").

SS: So this game requires that the students focus attention on initial consonants and usually rhyme their names with nonsense words. I bet the students love that game.

GW: Yes. The students get very involved, especially due to the focus on their own names.

SS: Anything else?

GW: Yes—segmenting and blending words is another tactic. I use the *Initial Reading Deck* (Cox & Cleaver, 2002), a stack of picture/sound cards that address the syllable types. Other phonics-based programs use this, such as the Wilson Reading System and the Orton-Gillingham System. I have drawn large versions of these cards for 15 initial consonant sounds and two vowel sounds. Students hold a card and as a group we make words. Three children use the cards to create a word like *CAT*. Then by removing a letter or phoneme, one child at a time, we make new words. *CAT* becomes *RAT*, then *RAN*, and so on.

SS: That kind of activity works easily for both deaf and hearing children.

GW: A slightly different tack would be to focus on words that are morphologically related, where the root of a group of words is similar. For example, imagine a word family that includes *play*, *plays*, *playing*, and *player*. These activities are important because they get children thinking about how words are structured.

SS: I'm certainly impressed with the American Sign Language/English School's continued commitment to integrating research findings into practice.

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literacy strategies for the classroom

PUTTING BI-BI THEORY INTO PRACTICE

By *Connie (Ruth) S. Schimmel and Sandra G. Edwards*

Latasha, 10 years old, came to the word “leap” in her text and abruptly stopped. Looking at her teacher, she isolated the vowel pattern *ea* and said the long “e” sound. Then she sounded out, “l _ea_ p.” With a quizzical glance, she peered back at the text. Using context clues, she pointed to the words “airplane” and “floated down.” Then she looked at “parachute,” a new word for her. Latasha commented, “If you’re in an airplane and you’re going to float down, you have to jump. So leap must mean jump and parachute must mean the thing that enables you to float down,” and she signed, “parachute.” Another score of 100! Latasha began the program at the first-grade reading level when she was in the fourth grade. Now in the eighth grade, Latasha is reading at the eighth grade reading level. She is the only deaf person in her family and her hearing loss is classified as severe/profound when unaided and moderate when aided.

Lynda, age 8, who was from an extensive deaf family, did not think that she needed the “sounds of English.” When her teacher began teaching the phonemic patterns, Lynda thought she was nuts and told her so. The teacher suggested that Lynda think of the phonemic patterns as a “cheat sheet” for the English language. She explained that there are many vowel patterns in English words that, when recognized, allow students to spell words more easily. Rather reluctantly at first, Lynda learned the patterns. Her “aha” experiences began shortly thereafter in spelling, when she brought her instructor her latest test with a perfect score of 100, the first of many to follow. Lynda began the program at the first-grade reading level when she was in the third grade. Now in the tenth grade, Lynda is reading on grade level. Lynda’s hearing loss is classified as severe/profound unaided and as moderate when aided; she chooses not to wear aids.

Right: Building literacy skill is the challenge for educators.

Models: David Van Boxlaere and students at Kendall Demonstration Elementary School.



PHOTO BY JOHN CONSOLI

Latasha and Lynda are both participants in Fairview Learning, a new five-component reading program that provides direct access to American Sign Language and English and opens a window for hearing and deaf students to begin to think and sign bilingually (Schimmel, Edwards, & Prickett, 1999). Each program component is supported by materials, trainings, and assessments. The components consist of: the Adapted Dolch Word Lists, the Bridge Lists and the bridging process, phonemic awareness, reading comprehension, and American Sign Language development/written English.

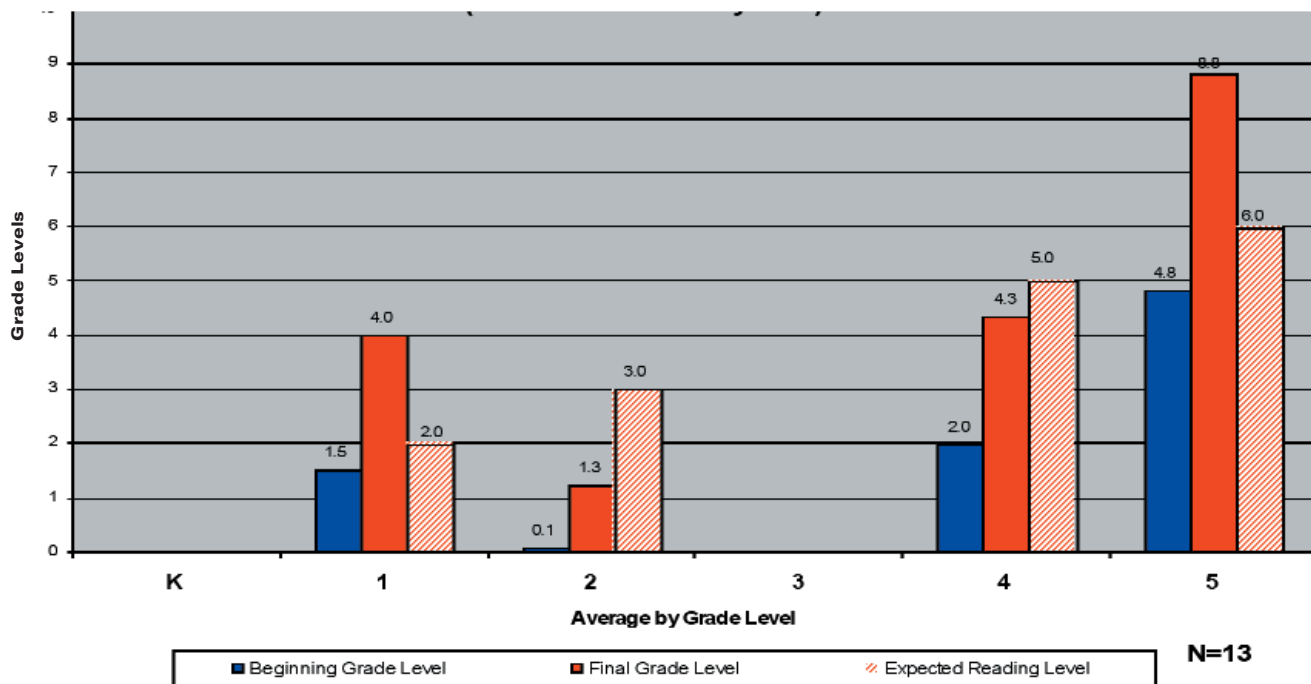
The Adapted Dolch Word Lists

Dolch words are those most commonly used words found in the majority of basal readers throughout the country. They frequently appear as required vocabulary for statewide reading competency tests. In conjunction with a panel of deaf adults from various parts of the country, Schimmel and Edwards considered each Dolch word on five lists, preprimer through the third grade. The goal was to match word meanings with their appropriate signs.

The Adapted Dolch Word Lists, accompanied by such

Reading Scores

Students' reading comprehension levels in the Multiple Skills Series are shown on the graph below. On grade level scores were the expected level of achievement. In this school, students in the first, second, fourth, and fifth grade classrooms participated in the program.



supporting materials as card sets, tapes, workbooks, and wall charts, have been designed specifically for the language and reading development of deaf students. For example, *made* has many meanings—I *made* a present for you; I *made* my bed; I *made* money; I *made* her happy; My brother *made* me do that. In American Sign Language, *made* is translated using a different sign according to the context in which it is found. When deaf students see concepts signed accurately, their understanding of English print is facilitated.

When the teacher shows the student the front of the card, the student must respond with all meanings of the word. Once these Adapted Dolch words are learned, they are used in print and in everyday conversation.

Deaf students must learn the 213 generic Dolch words; however, mastery includes 350 meanings because certain Dolch words may have more than one meaning, such as *just* or *big*, and may have more than one appropriate sign. This adds up to a total of 510 different signs required for basic understanding of the Dolch words. If a deaf student is surprised, the teacher merely replies, "Yes, this may seem more demanding, but guess what—you will be bilingual."

The Bridge Lists and the Bridging Process

Edwards and Schimmel note in multiple basal readers that Bridge lists comprise English phrases that require more than a single-word to single-sign translation for understanding; in other words, these phrases require American Sign Language translations. For example, *down the street* is translated very

differently depending on the context of a given sentence. The Bridge phrases supply different American Sign Language translations for this frequently used English phrase. The Bridge lists are divided into grade levels, from preprimer through third grade, to demonstrate commonly used meanings with their appropriate signs and supporting materials.

When the teacher shows the student the front of the card, the student must respond with all the listed sign translations of the phrase. Once the translations are learned, they are used in print and in everyday conversation.

There are 265 Bridge phrases on five lists, preprimer through third grade. Deaf students learn the generic phrases and the 455 different meanings. In addition, many phrases may have more than one appropriate sign, totaling 579 different signs for basic literacy.

Once a student begins to master the Bridge lists, reading



Above: Sandra Edwards, reading specialist, uses Bridge cards with a student in an individual setting.
Photo courtesy of Connie (Ruth) S. Schimmel.

word for word is abandoned, thereby increasing fluency and comprehension. One student who learned the concept of bridging became so enthusiastic about reading that one night she bridged an entire newspaper, drawing brackets around all the phrases in the entire newspaper that she thought should be bridged!

Phonemic Awareness

Even though skilled deaf readers make use of phonological information, just how they utilize this information remains a mystery. Therefore, Fairview Learning has developed a shortcut to basic phonemic awareness. Our shortcut consists of 21 consonant sounds and 21 vowel patterns presented in such a way as to make these patterns accessible to students, no matter what their level of hearing. Teachers are urged to teach this shortcut to the phonemic code quickly, within two to four weeks, so that students can get on with the business of truly decoding and reading.

For example, the long “i” sound is taught as having three possible patterns in words that include _igh, i_e, or _y. Consonants fit where the lines are. Students are asked to sign and/or speak these patterns, and then the fun begins. The teacher might write “shy” and say to the student, “I don’t think you are this,” as she points to the word. Or she might write “smile” and say to the student, “You have a pretty smile.” Students catch on very quickly.

Why does this shortcut—21 consonant sounds and 21 vowel patterns—work so quickly? The brain is a pattern-seeking device. It gobbles up information and constantly looks for meaningful shortcuts or “chunks” of information (Ramachandran & Blakeslee, 1998; Sylwester, 1995; Jensen, 1998). The patterns, once learned, enable students to use their working memory in the most efficient way (Gladwell, 2000; Kotulak, 1996; Diamond & Hopson, 1998). Students begin to see patterns in words or they are able to sound out words where only a bunch of letters existed before.

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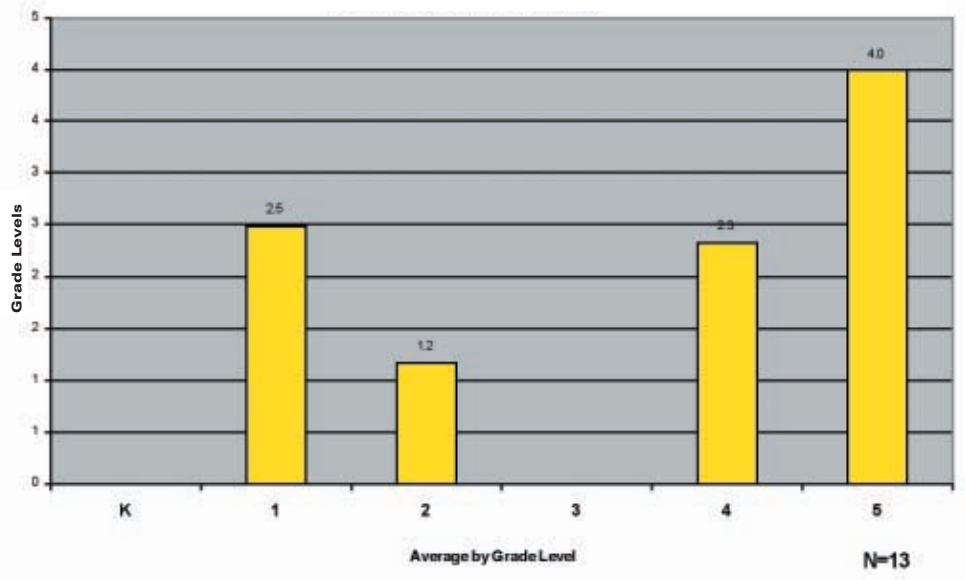
Reading Comprehension

Understanding of the Adapted Dolch words, Bridges, bridging, and phonemic awareness comes together during reading comprehension and provides the foundation for reading print with comprehension. Structured reading exercises are used to teach children better comprehension and decoding skills and how to use contextual clues. A very structured series produced by SRA is typically used; however, any reading program can accompany this component. We find that students progress dramatically with the program. Once the foundation is mastered, most students can be expected to get on grade level quickly. Many students move at least two or more grade levels in their reading comprehension per year.

Wayne, an Asian American student, was struggling to make sense of three languages. At his residential school, he was living in a dormitory where deaf people used primarily American Sign Language. His teachers used various sign codes and the people in the community spoke English. On the weekends, he traveled home to his family and worked in their restaurant, where most people spoke Chinese. So Wayne juggled three completely

A Measure of Progress

When reading comprehension progress as measured by the Multiple Skills Series is isolated and represented graphically, it shows improvement at all grade levels and that students in the fifth grade made the most dramatic progress.





he was able to apply them to the printed text. He also quickly mastered the Adapted Dolch and Bridge lists. He stopped rote word calling and began to read for meaning and his signing improved. Wayne began the program in the third grade at the first-grade reading level. Now in the tenth grade, Wayne is reading at the tenth-grade reading level.

When Temekia was 6 years old, she arrived at her residential school for deaf students with minimal signing skills and no reading skills. She began the Fairview program immediately. Now, Temekia reads the dictionary for fun! She wants to know everything. She constantly tries to figure out what words mean. Temekia began the program in the first grade on the picture reading level. Now at age 8 and in the third grade, Temekia is reading at the seventh-grade reading level.

American Sign Development/ Spontaneous Written English

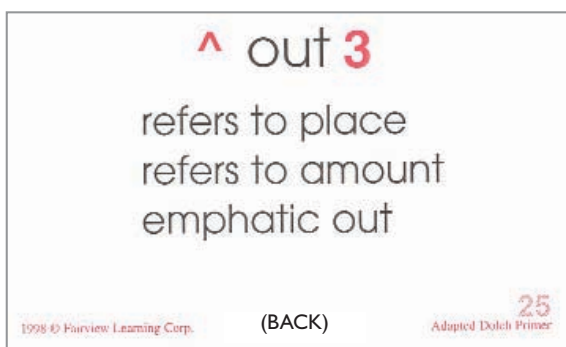
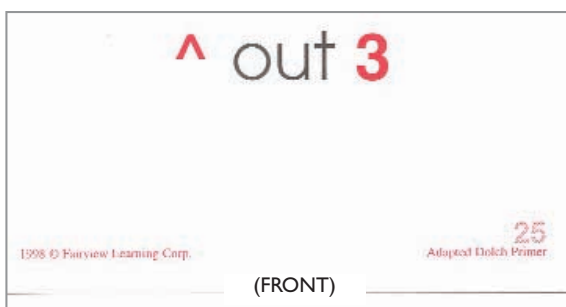
Language experience stories facilitate the development of reading skills and are one of the most powerful teaching tools available to teachers (Hammon, 1998). Fairview Learning recommends two kinds of interactive

situations for this component. The first situation involves students telling personal stories to an instructor fluent in American Sign Language, who then retells the stories while modeling the correct rules and grammar of American Sign Language, such as the use of classifiers, staying on topic, and facial expression. Students then sign their stories again, implementing what they have learned. These stories are filmed four times per year and assessed.

The second situation occurs during class times when students translate their signed stories into written English or dictate spontaneous and personal short stories about themselves to their teachers. These stories are edited into correct English by the teachers, and copied and illustrated by the students. They are kept as picture books for students to share or take home at the end of the school year. These books and videotaped stories become invaluable records of the students' linguistic progress.

different languages—Chinese, English, and American Sign Language. Until he was given some basic building blocks to approach English, he was lost in all three languages. Once he memorized the phonemic code, including the vowel patterns,

Right: The adapted Dolch card has a diacritical mark and the numeral three, alerting students that there are three possible sign translations for the word *out*. Adapted Dolch cards help students bridge the gap between sign language and English by showing the English word on one side and indications about sign translation(s) on the other.



Temekia's Stories

Two stories by the same child demonstrate the amount of progress that consistent use of language experience stories can produce. Temekia wrote and illustrated her first story when she was 6 years old.

Said open cabinet get food breakfast. Get ice mother stare. Said go put food later eat. Said stubborn and immature. Mother insulted. Spell m-u-l-e. Mother oh. I said sorry.



Above: Temekia, at age 6, wrote and illustrated her first story.

Right: Temekia was able to retell the story about rain forest devastation in her own (written) words.

Temekia's second story was written two years later at age 8. She had just seen a film about the tropical rain forest and she was very disturbed over what was happening.

It was Hot, about 80-100 or more. It has lots of rain! It has many kinds of animals, like sloth, monkeys, etc. It has MANY ants and butterflys, toucan, etc. The men had found the medicine for cancer, sore throat, colds, etc. Have they (people) out of their mind? People who cut the old tree down need to learn their lesson. I care about the animals who live in the top of the trees will be extinct Soon! Imagine 60 years later, it would look like the desert!!! This is a warning. And you'll be heading for trouble!

*It was Hot! Me About 80-100 or more
It has lots of rains! It has many
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the trees will be extinct Soon! Imagine
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the desert!!! This is a warning. And
you'll be heading for a trouble!*

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a new program connects students to learning

By Joan M. Forney and Andrea Simeone

Joan M. Forney is the superintendent of the Illinois School for the Deaf. She holds degrees in education of the deaf from Illinois State University and in educational administration from the University of Illinois at Springfield and Western Illinois University. She is an experienced teacher and administrator in programs for students who are deaf.

Andrea Simeone is the Bridges specialist at the Illinois School for the Deaf. She holds a bachelor's degree in education of the deaf from Northern Illinois University. She has 20 years of experience with students from 0-21 years of age. Much of her experience has been with students who are deaf and have additional disabilities.

The Illinois School for the Deaf (ISD) wanted a program that would truly make a difference in deaf children's learning. So when ISD individuals Sue Brosmith, elementary school principal; Rhonda Downs, learning resources educator; and Dr. Lori McKenzie, clinical psychologist, returned from a workshop on Bridges Learning Systems at the Tennessee School for the Deaf in spring 2001 and lobbied to establish a Bridges Lab at ISD, we decided to do it.

Establishing a Bridges Lab was a huge commitment. ISD had to make changes in the existing program that would allow staff to be assigned to Bridges and locate an appropriate classroom setting. Funding is always a challenge and resources were adjusted from ISD's Individuals with Disabilities Education Act grant. Other donated funds were used to purchase supplementary materials.

History of the Bridges Program

The Bridges program grew out of research and assessment tools developed during World War II that enabled the military to reduce its failure rate for training pilots from 35 percent to 9 percent or less (Meeker & Meeker, 1999).

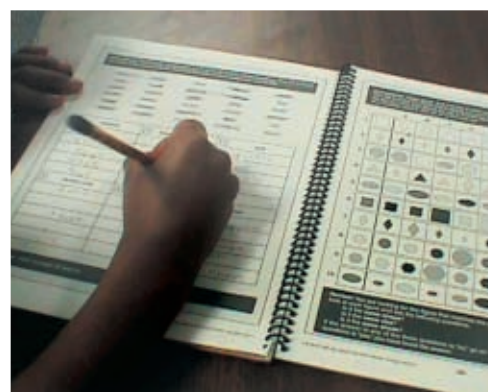
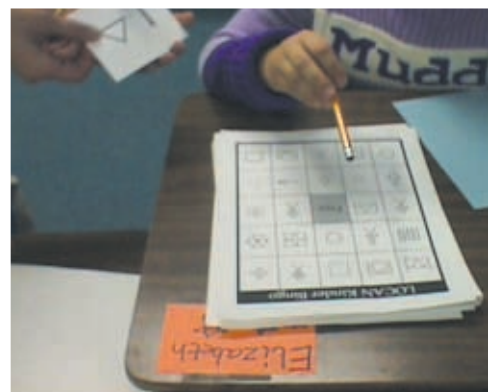
Bridges focuses on at-risk students. It is based on the premise that the ability to learn is important and should be given as much emphasis as the teaching of prescribed content. The program is based on the premise that the brain's potential can be developed at any age, partly through a pattern of exercises. It is congruent with today's description of human intellect in terms of multiple intelligences. Research with at-risk hearing students indicates that those who participate in the Bridges program experience significant academic growth (Bradfield & Slocumb, 1997a, 1997b; Meeker, 1998).

Bridges at ISD

ISD adopted a streamlined model of the Bridges program. It was staffed by Bridges specialist Andrea Simeone, and two technicians, teacher's assistant Lori Slater and Dianne Hall, the parent of an ISD student. Fifty-five students attend the Bridges Lab. The main focus is elementary students, but all ages of students are referred if they have been identified as having difficulties with learning in the classroom.

The precision of the lab setup is crucial to the success of the program. ISD and Bridges signed a contract regarding the fee for the total program that included the cost

Far right: Students in the Bridges program at the Illinois School for the Deaf work on skills in memory, sensory integration, and focusing. *Photos by Andrea Simeone.*



for materials and equipment. Under this contract, Bridges supplied most of the items used in the program, i.e., three rebounder mini-trampolines, three balance boards, bean bag balls, a variety of charts, workbooks for pencil and paper tasks, and 50 student learning kits. The ISD carpenter made walking boards for students to use in developing their sense of balance. The Bridges program also supplied cassette recorders and cassettes that could be used for hard of hearing students. Deaf students used

visual strategies, including directing a laser pointer at specific shapes—as opposed to listening to a cassette—during exercises.

After intensive training provided to ISD staff by the Bridges consultant, ISD began a comprehensive assessment to determine why each student was not learning or why each student had difficulty with learning. The staff completed assessments in cognitive skills, sensory integration, focusing skills, and reading. With the results of

the assessment in hand, comprehensive treatment plans were formulated to address each student's needs. The individualized treatment plans were coordinated with the student's Individualized Education Program.

Students generally participate in the Bridges Lab for two 40-minute sessions each week. During this time period, they spend about 20 minutes working with pen and pencil on development of cognitive skills, such as memory, and 20 minutes doing physical exercises that

develop focusing and sensory integration skills.

"The students love coming to the lab!" noted Andrea Simeone. "They arrive and independently start working... Their desire to practice and progress to successful performance gives an incredible boost in their self-confidence, while at the same time they develop and strengthen the skills necessary for learning! From kindergartners to seniors in high school, the students take ownership of their individual programs!"

Monitoring Progress

Since this program is new to ISD, the school is committed to determining if students are positively affected by their Bridges experiences. Baseline data has been collected on all students enrolled in the program, including scores from the *Wechsler Intelligence Scale for Children*, results of visual perceptual testing, and scores on the *Stanford Achievement Test-Hearing Impaired*. This information, and the assessments provided by the Bridges program itself, will be monitored and used to measure student progress. We will use this data on cognitive skills and achievement tests to see what the students are learning in this program, to determine if this really does work, and to see if it really makes a difference in achievement scores.

In addition, ISD is doing informal evaluations of the program. As part of the informal evaluation, students are asked to describe how they feel Bridges is assisting them with learning.

This is one account :

My name is Alan Bright and I... have been involved in the Bridges Lab since August 2002. I have learning difficulties in reading and spelling. Since starting in Bridges, I have noticed that I have started to improve in remembering the order in spelling words and am reading better. I have finished all Sensory Integration and Focusing Skills exercises so all that is left for me to do is my workbook!...After all that, I will take a post-test and compare it with my pre-test. I am thankful that we started the Bridges Lab*

here and hope it helps others like me!

Today Alan is showing improvement in the area of self-determination. He has evaluated his progress and sees a positive impact on his schoolwork.

LOCAN

After implementing the Bridges program, the consultants from Bridges and ISD staff felt that there was still an unmet need for non-readers. In order to address this problem, ISD, with the assistance of the Bridges consultants, introduced LOCAN (Language Objectified for Concept Attainment and Narration). LOCAN, defined by the consultants as "an easy-to-learn, concrete language for expressing thoughts and ideas," uses glyphs, or simple figures, to represent concepts. Each glyph represents a single concept and students can "read" the glyphs as a figural precursor to reading print.

"This makes the language directly accessible to the learner and, thereby, reduces reading to its absolute basics" (Meeker & Meeker, 1999).

Children recognize logos, stop signs, trademarks, and simple symbolic illustrations at a very early age. With the mediation of glyphs, students are able to develop the learning skills necessary to read and comprehend the written word.

Rhonda Downs, learning resources educator, noted that, "While working with elementary students, it has been encouraging to see these figural learners seem to quickly grasp the meanings of the LOCAN glyphs. Often they are able to transfer this to relational thinking."

The Bridges program is just beginning at ISD, and we are still determining what the next steps will be. For example, we are considering an additional part of the Bridges program—the Personal Career Evaluation part of the system—that assists students in making career choices.

Can Bridges really make the difference at ISD and other schools and programs

for the deaf? Can achievement scores dramatically improve? Will this program make a difference in the behavior and attention of students? Through careful measurement and documentation of our students' progress, ISD hopes to help provide answers to these very significant questions.

If you are interested in finding out more information about the Bridges program, visit the Bridges Web site at: <http://www.bridgeslearning.com/Programs/references.cfm>.

** This student's name has been changed to protect privacy.*

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BRIDGES IN ARIZONA

building minds ready for reading

By Kim Atwill, Sara Briggs, and Maureen Gallucci

“According to current test results, your child has made no growth in reading compared to testing completed three years ago.” As educational diagnosticians working at a day school for deaf students, we have informed parents of their child’s lack of reading progress too often. We knew something must be amiss. Then we discovered a unique program—Bridges (Meeker & Meeker, 1995), a reading remediation program where students in socked feet practice sensory exercises and student frustration is replaced with smiles of success.

Brittany, a social 10-year-old who perplexes teachers with her limited reading ability, enters the Bridges lab, immediately removes her shoes, and leaves them by the door. She and her six classmates check the schedule to determine who will start with exercises and who will start with workbooks. Seeing that she will begin with exercises, Brittany locates her exercise folder—otherwise known as an individualized treatment plan.

From several highlighted choices, Brittany selects *Arrows Opposite*, a sensory integration exercise. As part of this exercise, Brittany tries to produce the opposite of an arm-position pattern posted on the wall while at the same time maintaining a constant, rhythmic bounce on a mini-bouncer. After several independent practices, Brittany believes she can achieve perfection and calls a specialist over to watch. Brittany loses her rhythm once and, hence, is not yet perfect. She tries again. This time Brittany and the specialist agree she has 100 percent mastery. The specialist checks off an *R*, for *replication* of a perfect performance, in Brittany’s treatment plan.

Photography Courtesy of Bridges Learning Systems, Inc.

Kim Atwill, M.S. Ed., taught and interpreted for deaf students for eight years as an educational diagnostician at Phoenix Day School for the Deaf in Arizona before taking leave to pursue a doctoral degree in educational psychology at Arizona State University.

Sara Briggs, M.A., who taught at Phoenix Day School for the Deaf for 22 years, now works as an educational diagnostician.

Maureen Gallucci, M.Ed., has taught at the Phoenix Day School for the Deaf for 17 years. She also taught one year in New Mexico. She has been an educational diagnostician for the past six years.





Brittany has time for one more exercise. She selects *Suspended Letter Ball*, an exercise that develops focusing skills. In this exercise, Brittany maintains her balance on a rocker board while focusing on a letter presented on a ball. The ball is suspended from the ceiling and follows a revolving circular path at eye level in front of Brittany. This is one of Brittany's favorite exercises and she earns an *R* after five minutes of steady eye contact without extraneous head movement.

The 50-minute class is half over and Brittany and her classmates who have been working on exercises now turn their focus to workbooks. The classmates who have been working in notebooks turn to select their exercises. Brittany begins work on a page designed to help her develop semantic systems. In this pen and pencil activity, figures are presented in a pattern representing directions. For example, an upward triangle means up one stair, two upward triangles mean up two stairs, and so on, while conversely one downward triangle means down one stair. The goal is to follow this stream of figures, discern what they mean, and follow the instructions to an end point. Later Brittany will complete a similar task in which the directions will be presented in printed sentences.

What is Bridges?

Bridges is a multi-dimensional program created to develop cognitive abilities related to reading, math, and writing. The program is implemented through pullout intervention in the Bridges Lab. The lab provides an individualized program for improving sensory integration skills, focusing skills, cognition skills, and memory skills. The sensory integration and focusing skill exercises range in cognitive difficulty from *foundational* to *strengthening* to *challenging*. The third element utilized in the Bridges lab is a workbook building cognitive skills. Lastly, the memory lessons include an organized array of memory games, initially recalling figures (animals), then symbols (numbers), and finally semantic items (words). The Bridges program stresses the importance of following this order—figural, symbolic, semantic—when developing new skills (Meeker & Meeker, 1999). Math educators have followed this pattern for years. Students are exposed to new concepts using concrete objects (figural), with a transition to written digits (symbolic), and culmination with application through word problems (semantic) (National Council of Teachers of Mathematics, 1989).

To further explain how Bridges improves reading, we return to Brittany

and her exercises. To master *Arrows Opposite*, one of the most challenging sensory integration exercises and one of the most cognitively significant, Brittany—and every Bridges student—must:

- maintain an easy rhythm and prescribed posture (similar to achieving and maintaining a comfortable reading position);
- smoothly scan from left to right and top to bottom without repeating or omitting symbols (similar to reading multiple lines of text);
- accurately discriminate shapes and symbols, then rotate them mentally (similar to identifying a printed word and linking semantic content within a given sentence); and
- maintain intense concentration for 30 shapes, approximately 45 seconds (similar to reading a complete sentence or short paragraph).

To master *Suspended Letter Ball*, an intermediate focusing skill exercise, every Bridges student must:

- maintain balance on a balance board and prescribed posture (similar to attaining a body position that allows a student to direct all mental energy towards reading);
- minimize head movement while smoothly moving eyes left to right and back (similar to the left-to-right and return sweep involved in reading); and
- maintain intense concentration for five minutes as would be needed when visualizing a paragraph.

Why Bridges?

The diagnostic team at the Phoenix Day School for the Deaf (PDS) found that many of our students showed deficits in visual focusing and sensory integration areas. Students were slow to discriminate between visually similar words (e.g., *but* and *bat*). Additionally, struggling readers were observed losing their place, and in extreme cases their balance, while scanning a line of print. Teachers often assumed students had already developed these basic skills as

most children develop these skills before entering kindergarten, at home, or in preschool. Additionally, the diagnosticians identified many students who had short term memory weaknesses that prohibited easy reading (Marschark, 1993), limited visual processing skills (Emmorey, 2002), and reflected poor concentration. Some of these deaf and hard of hearing students were labeled “learning disabled.”

The diagnostic team gathered materials from a variety of publishers and tried to create a remediation program. We worked with some of the learning disabled students individually, and we observed some improvement. Still, limited resources and time, as well as an overall lack of cohesiveness, left us dissatisfied. Bridges solved our problem.

Bridges is a program that emphasizes the development of cognitive skills that children draw on when learning to read, write, and compute. Bridges’ motto is:

Cognition before content

(Meeker & Meeker, 1999).

The Bridges program also links assessment with intervention. The goal is to identify strengths and weaknesses in four areas essential for learning: sensory integration skills, visual focusing, cognition, and memory abilities. There are two components to the assessment: perceptual screening and cognition evaluation.

Perceptual Screening

Perceptual Screening examines the child’s sensory integration and focusing skills (Meeker & Meeker, 1995). Many deaf children lack the early childhood experiences necessary to naturally acquire these skills. For example, research has shown that in comparison with hearing students, deaf and hard of hearing students frequently have overprotective parents (e.g., Spencer & Gutfreund, 1990) or additional medical problems (e.g., cytomegalovirus, cerebral palsy, meningitis) that correlate with motor delays. The perceptual screening assesses three sensory integration areas: *balance*, one of the basic motor skills and a precursor for mental development; *crossing the midline*, a physical reflection of the brain’s ability to plan and perform more complex tasks in proper sequence; and *orientation of the body in space*, a detailed mental representation of oneself within the environment.

The second half of the perceptual screening investigates

the child’s focusing skills, which include both acuity and functional vision abilities. The focusing skills screening examines five areas: *teaming*, measuring how successfully the eyes work together to focus; *aiming at the target*, measuring how the eyes are able to maintain focus; measuring how the eyes handle *shifts between seatwork and board work*; measuring how the eyes work as they *move across a page*; and measuring how the eyes work together in *targeting an object*. When these skills are weak, students may experience an inefficient visual system prone to double vision, perceptual reversals, and losing their place easily in text, either jumping from word to word or line to line.

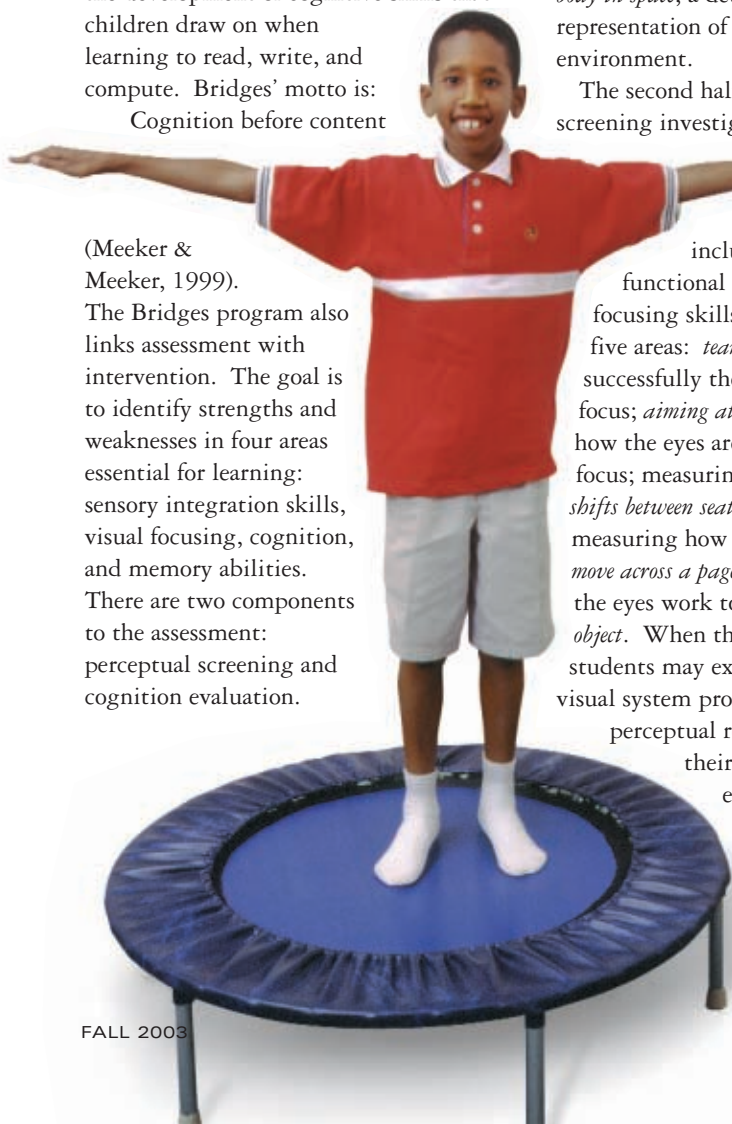
Reading requires smooth scanning across a

line of print. Focusing skills are prerequisite to sight vocabulary memorization, application of phonetic training, and development of reading comprehension strategies. All of these techniques occur assuming intact visual systems. Deaf children have an identified weakness in auditory perception and are twice as likely as their hearing peers to have additional visual impairments yet vision is an area frequently overlooked in deaf children (Lawson & Mykleburst, 1970). At PDS, approximately 39 percent of the learning disabled students wear glasses or have vision issues compared to 23 percent in the group with no additional disabilities. The ability to accurately and effortlessly perceive letters across a given line of print is the foremost skill in reading readiness.

The perceptual screening tool used to evaluate these skills contains a variety of motor exercises, from wiggling fingers on a directed hand to following an object horizontally left to right. The Bridges technicians are trained to observe and score the students as they perform these exercises to ensure that the individual treatment plan is created based on each student’s needs.

Cognitive Evaluation

Cognitive Evaluation consists of the *Structure of Intellect Learning Abilities Test* (Meeker & Meeker, 1995), which investigates three main learning styles: figural, symbolic, and semantic. These areas are further sub-divided into operations specifying the cognitive skill needed to complete the task and include: comprehension, memory, evaluation, convergent production (problem solving), and divergent production (creativity). The goal is to determine each student’s current abilities and then cultivate the specific mental abilities each student needs in order to learn to read. For example, a student weak in the evaluation of figural units will show visual discrimination miscues such as misreading letters and affixes. A weakness in memory for symbolic





systems may disrupt a student's ability to recall a complete sentence and reduce comprehension.

At PDSD: Three Years Points to Growth

In the 2000-2001 school year, the Bridges Lab served 23 students, first through sixth grades. The following year, the addition of a part-time technician allowed the program to increase to 56 students, kindergarten through tenth grade. The program has also witnessed the first graduates: 13 students completed all the exercises required in their treatment plans. Pre- and post-test results from the *Structure of*

Intellect Learning Abilities Test showed marked improvement for all 13 students. More important, these students' Stanford Achievement Test reading comprehension subtest scores increased significantly from April 2000 to April 2002. These gains are especially noteworthy because these 13 students had shown almost no growth in reading comprehension prior to the fall of 2000 and their enrollment in the Bridges program. In 2002-2003, the Bridges Lab had two part-time technicians and one full-time teacher, served 80 students, kindergarten through twelfth grade, and continues to grow.

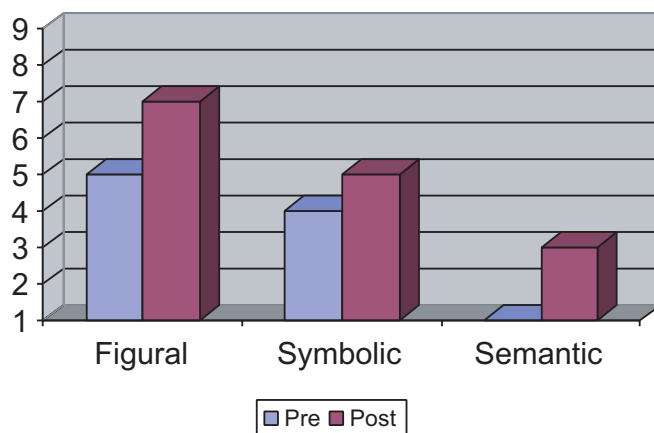
Another Reading Idea

In January 2003, PDSD began an optional element in the Bridges program, a computer supported figurative reading curriculum called LOCAN (Language Objectified for Concept Attainment and Narration). LOCAN was developed for hearing non-readers of all ages. Based on results from the *Structure of Intellect Learning Abilities Test*, Bridges researchers identified a commonality among one large sub-group of non-readers: they had strong cognition skills in the figural area, with weaker skills in the symbolic and semantic areas. The majority of traditional reading curricula have a semantic basis (Meeker & Meeker, 1999). If students do not have semantic skills, which Meeker and Meeker (1999) found was common for non-readers of all ages, they are less likely to succeed in a traditional program and a cycle of failure begins.

LOCAN was created by Meeker and Meeker as a figural precursor to reading print. As the name implies, LOCAN is a language development program as much as it is a reading program. In LOCAN, figures (*glyphs*) are presented which represent concepts. The students are taught the concept for each glyph through a series of pictorial and verbal activities. The glyph system is designed to be logical; for example, the root glyph for all female nouns is a triangle (Δ). The glyph for girl is a triangle with a circle for a head, the glyph for a woman is the child glyph with lines for legs, the glyph for mother is the woman glyph with a small circle inside the triangle, while the glyph for 'she' is simply the triangle alone. LOCAN was also created with the parts of speech in mind; for example, solid lines represent nouns, dotted lines are for verbs, dotted dashed lines are for prepositions. Glyph print provides a conceptual image for each word and allows students to feel like they are reading. As found in the other portions of the Bridges program, figural skills are methodically transformed into the symbolic and semantic skills involved in reading and comprehending printed alphabetic words.

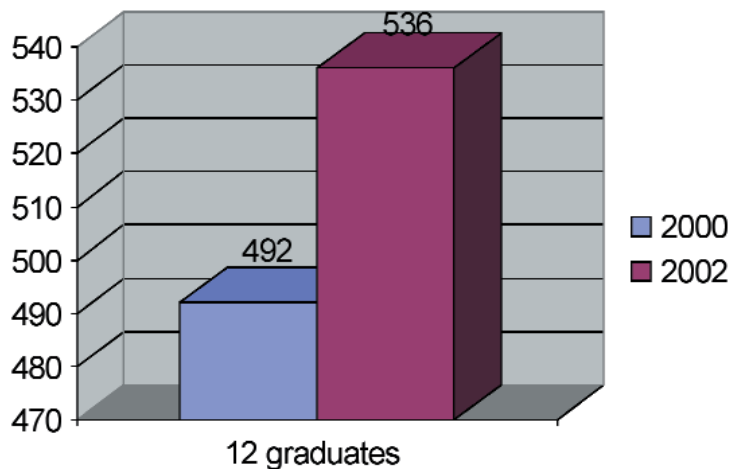
The Structure of Intellect Evaluation

The 13 students completing the Bridges program in 2001-2002 show an increase in the median stanine scores in each of the measured categories.



Reading Comprehension

The Stanford 9 reading comprehension results from the 12 graduates show a 44-point increase in median scaled score points after the completion of the Bridges program.

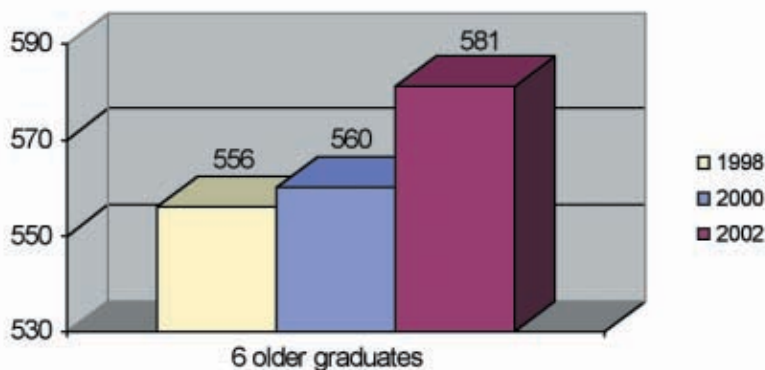


Prior to beginning LOCAN, the 16 selected third through ninth grade students' reading and language skills were evaluated to establish a baseline. After only three months, 8 of the 16 students improved their reading vocabulary and reading comprehension scores, based on results from the *Brigance Diagnostic Comprehensive Inventory of Basic Skills (Revised)* (Brigance, 1999). In addition, all 16 students were able to master the four elements subtest of the

Assessment of Children's Language Comprehension (Foster, Giddan, & Stark, 1973) compared to nine students prior to implementing LOCAN. Due to the short term of this project and small sample group, definitive results are not yet attained. Other schools for deaf students are beginning both the Bridges program and LOCAN. There is hope that data from all of these schools provide insight into the value of Bridges and LOCAN for deaf students nationwide.

Looking at Older Students

This shows the lack of growth that occurred for the older students during their two years prior to the Bridges intervention (1998 to 2000) and the significant growth that occurred with the Bridges intervention (2002).



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Sources of Information

Web site: www.bridgeslearning.com

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manipulative visual language

A TOOL TO HELP CRACK THE CODE OF ENGLISH

By Jimmy Challis Gore and Robert Gillies

Hearing children learn English through constant exposure to the spoken language that surrounds them. For instance, young hearing children understand the correctness of “The dog is eating the cookie” long before they can explain what *the*, *is*, and the suffix *-ing* mean in that sentence. Hearing children just “know” that this sentence sounds right—as opposed to “Dog eat cookie,” which sounds wrong even to many very young children.

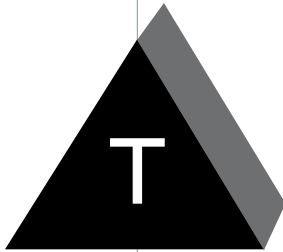
But where are the models that will enable deaf children to crack the code of English—to assimilate this syntax?

At a school for deaf children in Maine, we are answering that question with Manipulative Visual Language (MVL). For students with hearing loss, especially those in elementary school, MVL provides a visual model of English in its basic forms. Although basic elements of this technique are in use in some Montessori schools, we developed this system, refining MVL in order to address some of the difficulties in teaching English grammar to deaf students.

Shapes

The most striking feature of MVL is the use of colored shapes to teach the parts of written English. Black equilateral triangles represent nouns, red circles represent verbs, purple triangles represent pronouns, green crescents represent prepositions, and blue equilateral triangles represent adjectives. Using these shapes, we show the patterns of simple sentence structure.

Once students become accustomed to the pattern of shapes that constitute a sentence, they can see that a noun needs an article while a proper noun does not, that adjectives immediately precede nouns, and that every basic sentence needs a verb.



At right: In a system to represent English visually, teachers in Maine use blocks in different shapes and colors. Black equilateral triangles represent nouns, red circles represent verbs, purple triangles represent pronouns, green crescents represent prepositions, and blue equilateral triangles represent adjectives. Other information about the English word may be included on the color block. For example, blue triangles with a white number sign mean adjectives of number or quantity.

Photos courtesy of Jimmy Challis Gore.



We often use stories to introduce the shapes as symbols to students. Besides providing a memory aid, this technique helps explain a symbol's origins and purpose. For example: The little blue triangle [which denotes the article] was looking for a friend one day and approached the big 'N' triangle [proper noun]. 'N' was very proud, and said: "Go away! I don't need you! I prefer to be alone!" Luckily for the little blue triangle, there was a kinder triangle, the

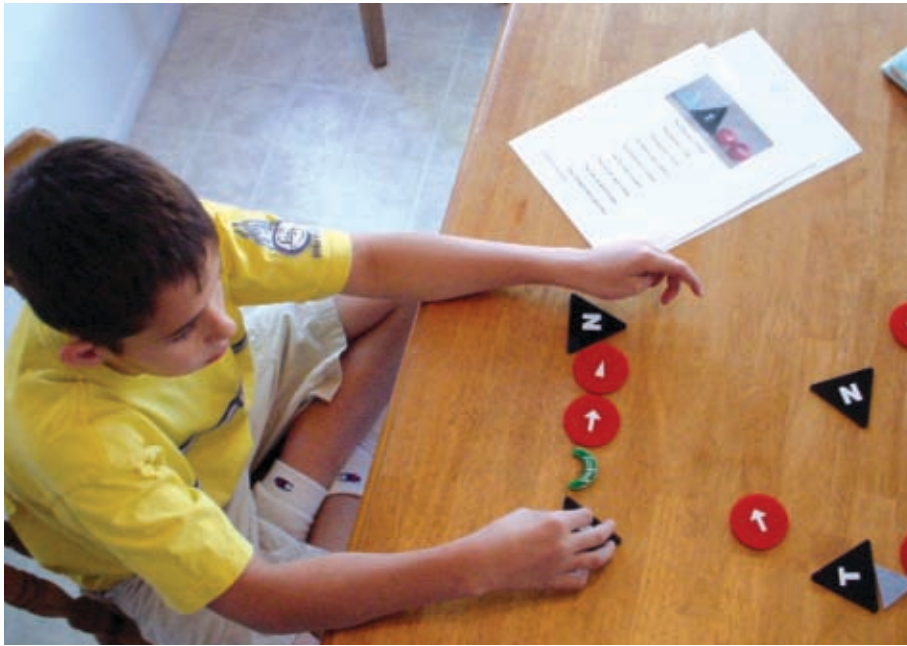
"T" triangle [common noun], and it was very happy to have a friend. The two of them became inseparable.

Materials

We find that students can work with these colored shapes in a variety of materials. For example, three-dimensional wooden shapes feel comfortable in the hand when students want to organize and sequence shapes at their desks. We have observed that

some students like to have a set of these wooden shapes on their desks when they are practicing a particular sentence structure. As one student said, "I cannot hear the order. I need to see and touch it, and that way I can understand it."

When our students are "symbolizing" sentences on the whiteboard, they work with two-dimensional shapes made from sturdy, vibrantly colored pieces of plastic with magnetized backings. The visual impact of these shapes against a white or



black background is striking.

In the hands of imaginative teachers, the two- and three-dimensional shapes can be used in many creative and meaningful ways. If teachers are working on a set structure, they can set up a left-to-right sequence of shapes, placing the shapes on a road or train track they have drawn, so students can identify the elements they need to make a sentence. Then the teacher can add forks in the road to show that a choice has to be made: for example, between *is* and *are*, or *the* and *her*. This approach is flexible enough to let teachers target specific grammar goals.

Another creative activity relates to verb tenses. We draw a timeline based on a short length of real videotape; students who have just acted out a brief videotaped drama can then plot the verbs along the line by putting the shapes along it. They can see the sequence of actions, and compare progressive and simple verb tenses with ease.

Like many elementary school teachers, we have filled the walls of our classrooms with examples of the most common patterns in English sentence structure. The big difference in our classrooms, though, is that we display sequences of shapes that illustrate these sentence patterns rather than printed advice for students to follow in developing their understanding of

grammar. Our students vividly see that before a noun they usually must put an article, that an article follows a preposition, and that a noun and subject are followed by verbs.

Our students use an “MVL Sentence Map” to build on what they have learned from their work with the wooden and plastic shapes. On this writing guide, which resembles a road map, students can trace a line from left to right, selecting the elements they will need to write a clear, simple sentence. There are several options along the way, but on this “road” there is no way to bypass the first verb! For instance, beginning writers quickly become dependent on the article *the*, but we need to encourage them to consider other options. So when they edit their sentences with the map, they see that when the road forks at the little blue triangle, it also forks for the possessive noun and possessive pronoun. They can reflect on their choice of *the*, and can decide if there is a better option at this point on the map. Before the common noun there also comes a fork for an adjective. As they edit their sentences, they can consider this option and add an adjective to improve the sentence.

We designed the sentence map for those students who are reluctant writers, and it is a very popular tool because they are able to see what they have to write—and in what order—to create a clear,

simple sentence.

We have one sentence map near an old fire alarm on the wall. We “wired” the first verb on the map to the old alarm. Students enjoy pointing this out to visitors, and warning of the perils of bypassing that “red” word! Mastery of the structures within the map gives students an excellent foundation for building more complex sentence structures.

Shape Variants

In the three years we have been developing and applying MVL, we have found that the shapes alone, although useful, cannot convey all the information our students need. For instance, the shapes are not sufficient to show the different forms that verbs, nouns, adjectives, and pronouns can take.

We found that working with the menu of five basic shapes was something like ordering a vegetable in a restaurant. It narrows the options (and is preferable to simply asking for food), but the chef will need more information than just “vegetable.” What kind of vegetable? How do you want it cooked? The challenge is much the same with, for instance, the red “verb” circle. As a way of classifying a particular word, it is a great start. But a young student who is learning to write needs to know more. That is why we developed variants within and around the “master” shapes. The red circle means verb; the graphics we have added to the red circle give a definition of the verb’s exact meaning. We can clearly convey tenses, as well as different forms of the auxiliary verbs *to be*, *to have*, and *to do*. Students can see what verb tenses look like and, significantly, they can see what they mean. Different noun forms (names, things, places, possessives); auxiliary verbs; and subject, object, and possessive pronouns are likewise clearly and strongly defined within their “master” shape by these variants.

Many older students are unsure of the word order when they have to use two or three adjectives in the same phrase or

sentence. For example, is it old wooden chair or wooden old chair? We designed nine different symbols, one for each of nine categories of adjectives, with a symbol within the blue triangle. Once students have this sequence memorized, they can use two or more adjectives in a sentence with greater confidence.

MVL and Reading

While MVL is a powerful tool for helping students with writing, we also use it in reading activities. In one exercise, students use the symbols and their variants to analyze and symbolize sentences or blocks of text. Using colored pencils, they seek out a particular structure and mark above the words appropriately. Students say they enjoy this exercise in code breaking because it helps them imprint basic structures into their memories, further reinforcing patterns in English they never get to hear.

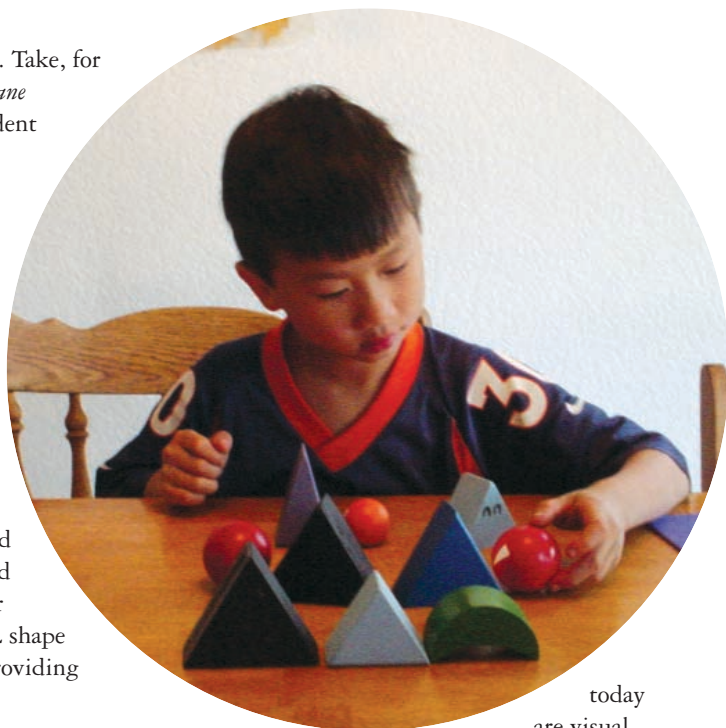
Sometimes when we are working with a projected text in a group reading exercise, our students encounter an unknown word. We can use MVL to

help narrow the options. Take, for example, the sentence *Jane registered the car*. If a student does not know what *registered* means, we can set up the magnetized shapes for *Jane*, *the*, and *car*. It is a real moment of triumph if a student puts a symbol for a past tense verb over *registered*. It is possible to make a game out of this. As with cloze procedure, you can block out a word on the projected text and give students a point for choosing the right MVL shape and a bonus point for providing the right word.

Tradition was Not Enough

We developed MVL in reaction to traditional ways of teaching English grammar, which almost always entail presentation through text. There is a place for this approach, but it needs to be supplemented because, quite simply, using words to explain words can be a baffling approach if words are themselves the problem! Many deaf adults have only bad memories of this kind of text-only approach. MVL lets students see how the basic parts of English grammar work together—literally, it lets them get their hands on grammar.

At first sight, a teacher might find the many symbols in MVL daunting and worry that students will find them even more so. But as any Windows-era computer program shows, most people



today
are visual

learners—whether

deaf or hearing, old or young, but especially the young. Computer programs display a large quantity of visual symbols, or icons, on screen. For example, we counted at least 60 such symbols around the screen for the word processing program we used to type this paper: Paste is a little brush, cut is a pair of scissors, etc. After a few “touches” on each symbol, it all starts to seem intuitive. In a somewhat similar manner, MVL presents students with a system of symbols whose logic quickly becomes evident because the system is so visual and tactile.

We recommend using MVL in the elementary grades in order to establish a strong grammar foundation, but we find that it is entirely appropriate for middle school, high school, and even adult students struggling with English. Though the colorful forms can seem “young” at first to these students, their excitement is evident when they finally grasp a grammatical concept for the first time. “It takes a few weeks to pick up the concepts with the shapes,” says one adult learner. “But,” she adds, “without them it would take years.”



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Christine Carter is a Reading Recovery teacher in the primary grades in a day program for the deaf at Whitmore-Bolles Elementary School in Dearborn, Michigan. She received her master's degree in deaf education from San Francisco State University and a master's degree in early childhood development from Oakland University in Michigan.

The authors have collaborated in using Reading Recovery, an early intervention program that supports at-risk learners, enabling deaf and hard of hearing students to catch up to their peers in reading and writing skills.

reading recovery with deaf children

By Susan King Fullerton, Nancy Brill, and Christine Carter

Sharon had just finished reading a familiar book, *A Friend for Little White Rabbit*. Like more than one million other children (since 1984) in the U.S., she read the book to her Reading Recovery teacher, Brill. Without prompting, Sharon told Brill that the words from the text, "Come on!" were read using one sign as in *Come_with_me*. Unlike most of those other children, Sharon receives Reading Recovery instruction through American Sign Language because she is deaf.

In February 2003, we came together at the National Reading Recovery Conference in Ohio to share our work with students such as Sharon. We were together to present the Reading Recovery instructional procedures that we have adapted for deaf and hard of hearing students. As a former teacher and teacher trainer for the deaf, Fullerton has piloted procedures with deaf students and has served as a resource person and researcher; Brill and Carter, as teachers of the deaf who are trained in Reading Recovery, have used Reading Recovery procedures to teach deaf children.

In fact, since 1995, there has been a grassroots effort in the U.S. to use the theoretical foundation and lesson framework of Reading Recovery and develop one-to-one literacy intervention for deaf children. While no formal program has been established, teachers of deaf and hard of hearing children in different states are using adaptations of Reading Recovery. The presenters and members of the audience of the National Reading Recovery Conference, many of them teachers, were confident that Reading Recovery procedures offer strong literacy support for deaf and hard of hearing children.

*Photograph by John Consoli
Model: Irene Swain*

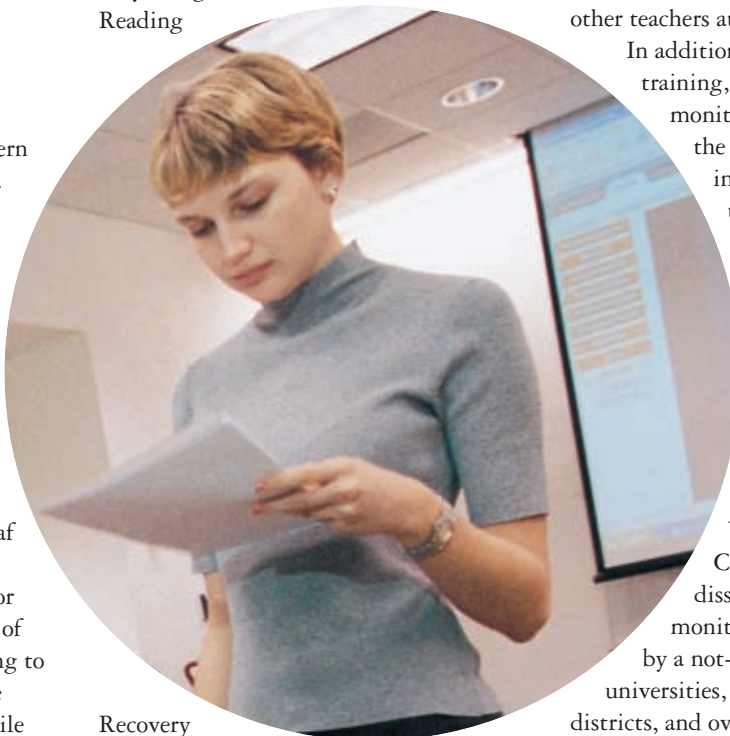
Literacy Development in Children Who are Deaf

In the last few decades, there have been numerous widespread changes in educational environments and instructional methods in the literacy education of deaf children. In spite of these efforts, the average reading level for a deaf high school graduate remains at a third- or fourth-grade level (Paul, 1998; 2001). Of course, it is logical for educators to focus on instructional methods, teaching materials, and interventions that support literacy development in older learners, but as many colleagues recognize, this concern calls for at least a two-pronged effort. On one hand, we need new and bold initiatives. At the same time, we need one-to-one interventions with struggling readers who are still developing language and beginning to notice print.

One-to-one tutoring is widely used to prevent reading failure with young hearing students. Surprisingly, the use of this intervention with readers who are deaf has received little attention. (See Nielsen & Luetke-Stahlman, 2002, for one exception.) Given the variability of factors that impact learning, attending to the needs of the learner in one-to-one contexts seems a viable solution. While class sizes of deaf children are often small, the variables that teachers must take into account in instruction are many, broad, and complex. These variables include: degree of hearing loss; age at onset of hearing loss—before or after language had begun to develop; cause of hearing loss; indications that the cause affected perceptual, cognitive, or motor capabilities; communication in the home; and communication method at school. Beyond these factors, there are differences in language, learning, and literacy abilities. Given such variability, it seems likely that one-to-one tutorials with highly trained teachers might provide deaf learners with effective literacy instruction.

What is Reading Recovery?

The theories that serve as the foundation for Reading Recovery are based on Marie Clay's (1993; 1998; 2001) view that instruction for the lowest performing learners must address each learner's individual and cultural differences, each learner's specific levels of ability, and each learner's responses toward literacy tasks. Developed in New Zealand by Clay, the goal of Reading



Recovery is to advance the literacy development of struggling learners through supplementing effective classroom instruction with skilled and scaffolded one-on-one instruction (Clay, 1993; 2001). In less than a decade, over one million at-risk children in the United States have received instruction in Reading Recovery. Reading Recovery is also available in Spanish and French.

At the heart of Reading Recovery's design is its instructional component. Each teacher works with at least four students daily in individually tailored 30-minute instructional sessions. Reading Recovery requires about half of each teacher's day. During the other half of their day, teachers function in other

roles, such as literacy specialists or primary grade teachers. Reading Recovery teachers participate in yearlong training, part of a tiered professional development model, for which they receive college credits. Much of the training, especially during the first year, centers on professionals who teach, observe, and discuss individually tailored and expertly sequenced lessons as seen through a one-way glass observation of other teachers at work.

In addition to this ongoing training, there is nationwide monitoring and evaluation of the students who participate in Reading Recovery. At the beginning and end of each child's series of lessons, *Observation Survey* (Clay, 2002) data are collected and evaluated through the Reading Recovery National Data Evaluation Center based at Ohio State University in Columbus. Currently, this research is disseminated and used for monitoring and improvement by a not-for-profit network of 23 universities, over 3,000 school districts, and over 10,000 elementary schools in the U.S. Preparations are underway to collect data for deaf students as well. (See Askew et al., 1998, for more information on design and outcomes.)

The Reading Recovery Lesson

Reading Recovery lessons, structured to meet individual student needs, consist of the following:

Familiar reading—A reader chooses several books to read that are familiar and easy. The interactions between teacher and child during this part of the lesson focus on the meaning of the story and strategies that the child uses to negotiate the text.

Running record of yesterday's new

book—Each day, the child reads independently a book that was introduced the previous day. As the child reads, the teacher remains neutral, recording and analyzing the child's reading behaviors, determining what the child can do without support. When the child finishes, the teacher interacts with the child to help him or her improve processing of the text by focusing on one or two critical behaviors. After the lesson, this text is placed in the child's collection of familiar reading books.

Letter identification—The teacher supports the child in using magnetic letters to increase letter knowledge and rapid recognition.

Making and breaking of words—The child learns to take known words apart and construct new words from those that are known. The goal is to help the learner attend to phonemes, clusters, and syllables, stressing left to right sequencing so that they can use this knowledge in reading and writing.

Writing—Children learn how ideas they and the teacher share can be written down. Each day the child, with support from the teacher, generates a written message. This portion of the lesson is highly scaffolded, with the child using a writing book to work on details of print such as letters, letter sequences, letter patterns and clusters, sounds, and words and to develop skills in auditory and visual analysis. The interactions of the teacher and child focus on phonemic and orthographic knowledge and on providing a strong orientation toward meaning in order to promote enhanced semantic, syntactic, and pragmatic knowledge sources for language.

Working with a cut-up story—The teacher writes the child's message on a sentence strip. As the child reads the sentence strip, the teacher cuts apart the words or word parts. The cut-up message is placed in random order, and the child then puts the message together correctly. During this experience, the teacher reinforces the use of visual, meaning, and syntactic sources of information and

requires the learner to be strategic in monitoring the message and searching the print.

Orientation and first reading of a new book—The teacher selects a new book based on the child's current interests, knowledge, and strategy use, while also considering what new learning might be present and what difficulties might arise. The teacher guides or scaffolds learning, presenting key concepts that the child needs to be aware of, language from the text that may present difficulties, and perhaps noting one or two new and important words. Afterwards, the child reads the book. During this first reading, the teacher makes expert decisions about when to prompt and guide the child. After the first reading, the teacher may return to one or two key points to reinforce comprehension and strategy use.

It is important to note that within each component and across every lesson, the teacher converses with the child. Attention is consistently focused on the meaning and the enjoyment of text.

Reading Recovery with Learners Who are Deaf

Like other teachers and researchers (Schleper, 2002), we recognize the value of independent reading, including the opportunity to reread familiar texts. Research supports volume of reading as a way of improving fluency, incidental acquisition of vocabulary, and comprehension, with repeated readings showing strong effects (National Reading Panel, 2000). Every day in Reading Recovery, the child rereads texts. Books are selected in consideration of the child's syntactic and semantic knowledge; as they are reread, the child becomes more secure in using and understanding various syntactic structures. Rereading enables children to use the redundancy and predictability of English language to anticipate word order. Rereading enhances language learning.

As Mike, a 7-year-old deaf first grader, reread *The Pencil*, Fullerton noted his

staccato signing of phrases from the text. "*Where-is-my-tail?*"-*said-the-dog*. "*Here-it-is,*"-*said-the-pencil*.

Reading in this choppy manner interfered with the opportunity to use the language of the text to aid comprehension. As she watched him, Fullerton was aware that the verb structure was different from the way that Mike might actually sign the question, making the task of reading a less familiar structure more difficult.

With a hearing reader, a teacher might offer support by using a small card or her thumb to expose a phrase at a time, asking the child, to "Put the words together so that it sounds like talking." Fullerton made this procedure visual for Mike. She covered up the words "*said the dog*" with the card revealing, "*Where is my tail?*" "I will use the card to show you the groups of words," she told him. As Mike read, "*Where is my tail?*" Fullerton quickly slid the card across to reveal the words, *said the dog*, helping Mike to see the breaks in the language, and supporting his ability to use language in more manageable and meaningful phrases. Not only did this seem to make a critical difference in the reading of this text, but also using this procedure for a subsequent book helped Mike to begin to do this more independently.

The teacher also uses the child's current knowledge and way of operating on texts as a guide. For example, Sharon, a 6-year-old deaf first grader, told Brill she wanted to write about the school getting a lot of money from the fair. A brief discussion in American Sign Language helped Sharon clarify her message. Then they both signed "*School got a_lot (one sign) money.*" Then Brill modeled the correct English construction using signs, "*The school got alot of money.*" Sharon practiced signing the sentence in English word order with Brill, while Brill made sure that the sentence was expressed in meaningful units, i.e., The school . . . got a lot . . . of money. As Sharon wrote the story in her writing book, she had many opportunities to

practice English word order. Brill prompted her to go back and reread what she had written to figure out what the next word would be in her story.

For example, Sharon wrote *school* with a bit of assistance from Brill. Then she reread, “*The school*,” anticipated the next word in her message—*got*—and quickly wrote it. By the time Sharon completed the writing of the message (with support

from Brill when needed), she had reread her message numerous times, an activity that provided an additional tutorial effect on her language development. Once she completed the message, she reread it again to check that everything looked right and made sense. Then Brill wrote her message on a sentence strip, cut out and scrambled the words, and Sharon put them back in the correct English order.

Sharon and Mike are part of our experience that suggests that Reading Recovery has much potential in supporting literacy acquisition for young deaf students. As we work with many different children, we will continue to study and adapt these methods through conducting trials and collaborating with others in the fields of literacy and deafness.

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C. Tane

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This article was made possible through a Model Demonstration Project for Children with Disabilities from the U.S. Department of Education, Office of Special Education Programs and Rehabilitative Services (Grant No. H32M990001-00). Correspondence should be sent to Dr. Stewart at: dstewart@msu.edu.

PHOTO BY GOODMAN/VAN RIPER



a model for effective communicative practice

WITH DEAF AND HARD
OF HEARING STUDENTS

By David Stewart, Connie Mayer, and C. Tane Akamatsu

Exemplary teachers empower deaf students by encouraging them to take a more active role in their own learning. Through dialogue, these teachers guide students on a pathway of inquiry and self-expression that leads to a firmer understanding of the concepts they are learning. This pedagogical approach cuts across grade levels and subject matter.

We are nearing the end of a four-year “best practices” study of communication strategies that exemplary teachers of the deaf use in elementary and secondary education. Extensive analyses of teacher-student dialogue across grade level and subject matter have revealed that effective

teaching occurs when teachers respond to students’ comments and queries in a meaningful and constructive manner that stimulates intellectual growth.

The premise of our investigation of effective communication strategies is that discourse is a key aspect of instruction—a notion that is often lost in a teacher’s attempt to conform to a particular form of signed communication, with or without speech, whether it be American Sign Language (ASL), English signing, or some form of contact sign (Mayer, Akamatsu, & Stewart, 2002). Indeed, a focus on the form of signing teachers use often overshadows the fact that, even with effective signed communication skills, teachers are in need of discourse strategies that can help them engage their deaf

Models: Maria Danso-Irizarry and Genera Ware and students in the Gallaudet University Children’s Instructional Summer Program and Kendall Demonstration Elementary School.



PHOTO BY JOHN CONSOLI

students in authentic learning.

Talk about communication in the education of deaf children invariably centers on issues relating to the nature of the communication itself—its symbolic representation and use as a linguistic code (Akamatsu, Stewart, & Mayer, 2002). Are the teacher and students using speech or signing to communicate? If they're using signing, is it English, ASL, or contact language? How does the signing of teachers compare with the way ASL is signed in the deaf community or presented in ASL textbooks? Should teachers talk while they sign? Should restrictions on the use of signing and speech be placed on

teachers in an effort to implement a standard form of communication throughout a program? While educators and researchers have debated each of these questions, there is still little consistency among teachers in how to best communicate in the classroom.

In actual practice, teachers of deaf children tend to settle into a personal comfort zone in communicating with their students. While students and teachers do understand each other, the ability to sign and be understood does not guarantee effective communicative practice in the classroom. A didactic model in which the teacher talks, the students listen, the teacher asks, and the

students answer is predicated on the assumption that knowledge is imparted by the teacher (Tharp & Gallimore, 1988); in practice, such a model leads to deaf students being only marginally involved in constructing knowledge.

Investigating Effective Communication Practices

What is it that exemplary teachers of the deaf do? A group of nine teachers of the deaf in grades K-12 participated in the first two years of our four-year study. Identified by principals and supervisors as being exemplary in their ability to help students achieve academic success, each of these teachers also met the



subject selection criteria of having taught a minimum of five years and of obtaining a satisfactory standing on the Sign Communication Proficiency Interview scale.

For this article, we examined transcriptions of teacher-student interactions in search of a sharply defined set of discourse strategies applicable to all teachers of the deaf, regardless of mode and form of communication. The strategies we identified embody two key concepts: *dialogic inquiry* and *contingently responsive discourse behavior* (Wells, 1999; see also Mayer, Akamatsu, & Stewart, 2002, for an initial report on the study's theoretical framework and findings).

Although we took note of the varied nature of communication, the one feature common to effective practice in all nine teachers' classrooms was the way these teachers engaged their students in the teaching and learning process. Students co-constructed knowledge with

their teachers, actively engaging in dialogue as a means of developing their own understanding. Wells (1986) characterizes such teacher-student interactions as "contingently responsive," i.e., the teacher uses students' utterances to obtain clues about what they currently know. Effective teachers use these clues to formulate feedback to the students that will help them achieve a higher level of understanding and ultimately devise a solution to the problem at hand. As well, these interactions need to support solutions to authentic problems that students find meaningful.

Teaching and Learning Through Discourse

THE MODEL

Our model of communicative practices is based on three principles:

1. Focus on the content and meaning of what a student is saying.
2. Provide feedback that will help a

student be an active participant in the construction of knowledge.

3. Ensure that classroom dialogue engages the students in genuine problem solving.

Some Strategies for Implementing the Model

1. Establish a common understanding of a question or topic. Through a combination of formal signs and mime, Sherie pretended to pour water off a globe into a 1,000 ml beaker to help her students conceptualize 1,000 ml of water as all the water in the world.

2. Take the students' contributions as evidence of their current level of understanding and expand on them.

Andrea's class was studying peninsulas when Doug interjected that he had once lived on an island. Andrea capitalized on this comment to expand the discussion to comparing and contrasting islands and peninsulas.

3. Make explicit connections between student contributions and the topic at hand. Elaine's class had just returned from speech class and was discussing the fact that they had talked about tools. At one point Rebecca stated, "You can't touch it—it's too dangerous," without clarifying what "it" was. Elaine made explicit that children should not touch tools because they are dangerous. Rebecca followed up with a clear statement that Elaine, as an adult, could use tools.

4. Use questions as prompts. To decide whether or not multiplication was an appropriate strategy for solving a particular problem, Andrea set up three cups containing two, three, and two chips, respectively. She asked whether it was possible to use multiplication to figure out the total number of chips. Doug suggested multiplying two times three as a solution. In response to this incorrect attempt, Andrea broke down the process by repeatedly questioning the students to call attention to, first, the number of groups there were, and then to how many chips were in each group. She further clarified her

explanation by moving her signs nearer to the manipulatives to connect the signing to the concrete representation.

5. Rephrase student contributions.

Prior to reading the text, Sherie and Bobby were discussing the pictures in a book called *Just Look at You*. Sherie was trying to establish that the picture showed children playing in the rain. Misunderstanding, Bobby grabbed the book and signed, "white ... teeth ... smile." Sherie responded, "Yes, they're happy. But what's this [pointing at the rain]?"

6. Summarize and restate what has been said. After several conversational turns during which students and teacher established that 70 percent of the world's water is in the oceans and is therefore salty, Sherie summarized their

collective understanding by referring to a beaker of water containing 30 percent of the original 1,000 ml (see strategy 1), stating that this represented all the fresh water in the world.

Language plays a crucial role in learning because it provides a code students can use to think

about and internalize new concepts and information. Teachers who pointedly engage their deaf students in meaningful dialogue are providing them with opportunities to experiment with language and in the process become more adept at using it for self-expression. Our research reveals that engaging students in dialogues is a common thread in exemplary teaching that runs through all subject matter and every grade.



PHOTOS THIS PAGE BY JOHN CONSOLI

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Mid-Atlantic Regional Academic Bowl Hosted by MSSD

By Rachel Burton

Rachel Burton, a recent MSSD graduate who has been accepted to Gallaudet University, was the captain of the MSSD team.

Above: Some of the winners of the 7th annual Gallaudet Academic Bowl, an event in which 70 schools from across the country participated beginning with regional competitions last spring.

The Mid-Atlantic Regional Academic Bowl Competition hosted by the Model Secondary School for the Deaf (MSSD) ended on a good note, with an exciting championship match between Mountain Lakes High School, a mainstreaming program in New Jersey, and the Maryland School for the Deaf, in Frederick. Mountain Lakes High School came out on top, 39-34.

Fourteen teams registered to compete in the regional competition. However, six teams were unable to come for security reasons. The remaining eight teams came to MSSD for the seventh annual competition and competed in a round robin match.

The MSSD team consisted of seniors Rachel Burton, Serena Stone, and Jamie Weinstock; junior Josh Weinstock; and sophomore Meghan Venturini. MSSD came in third after being on a roll all day Friday. We went undefeated until the final match against Mountain Lakes High School, the team that became the champion.

I'm very proud of my team. We worked really hard, and it was not easy. I must applaud the efforts of the committee members, volunteers, and student assistants. In addition, head coach Bo Acton and coach Janet Weinstock deserve recognition for their hard work in preparing the team for this year's competition.

Congratulations to everybody for a job well done! More information about the Academic Bowl can be found at: <http://clercenter.gallaudet.edu/AcademicBowl/Info.asp>.

Students Place High in Botball Regional Competition

By Susan M. Flanigan

Students Seth Gore and Shawn Smith held out the whole game while Curtis Byrd and Abi Odunlami provided tech support as they moved the Model Secondary School for the Deaf to 17th place—securely in the top half of those who competed—in the Botball competition in the Washington, D.C. region.

Botball challenges students to make use of practical applications of science, technology, engineering, and math by using Lego parts to build robots and make them perform specified tasks. Each team gets a kit containing the same Lego parts.

"These students deserve a thumbs up for a job well done," said their science teacher, Mark Tao. "The Botball game is played on a 4'x 8' board where robots score points by placing black or white balls in scoring position. The robots use no remote control... students learn programming language to get the robots to perform tasks.

"The programming language that the students used was C language," noted Tao, "putting the students on the

cutting edge of one of the most popular computer languages in science and business."

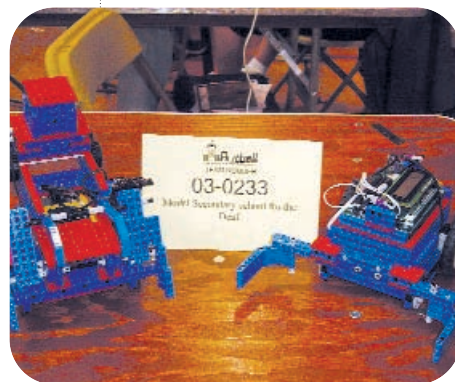
Botball is sponsored by a coalition of corporate, government, and educational institutions. MSSD's Botball team received funding from the District of Columbia Space Grant Office.

"We are very grateful for their support," said Tao.

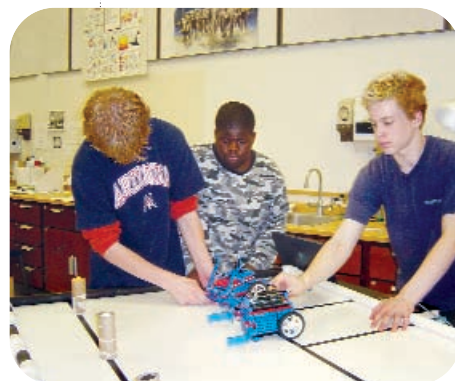
Below: MSSD students building robots in a regional competition.



PHOTOGRAPH BY GOODMAN/VAN RIPER



PHOTOGRAPH COURTESY OF MARK TAO



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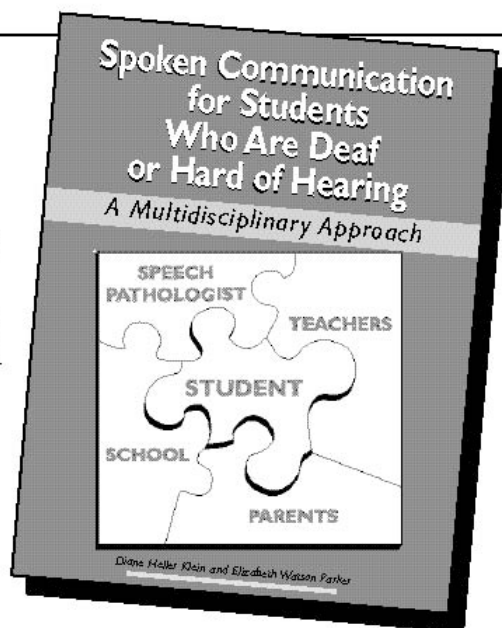
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Deaf and Hard of Hearing Teens Honor Their Heroes in Gallaudet's National Essay Contest

By Catherine C. Valcourt-Pearce



YELTON

"It will take me at least two lifetimes to be only half the person my father is..." wrote **Alexia Yelton**, from **Chesterton High School**, in Chesterton, Indiana, who won first place and a \$1,000 scholarship for her essay entitled "My Father: Teacher, Coach—and My Inspiration" in Gallaudet's fifth annual National Essay Contest for Deaf and Hard of Hearing Students. The contest theme, "Who is your hero—and why?" attracted



DOUROS & HER UNCLE

entries from 150 teens from schools and programs for deaf and hard of hearing students around the country. The teens gave tribute to people they consider heroes—moms, dads, teachers, firefighters, police officers—everyday people who have touched their lives.

Melinda Douros, from **Walsingham Academy** in **Williamsburg, Virginia**, wrote, "Sometimes heroes do not need to be brash and outspoken; they can be quiet and perhaps not even realize they are heroes." She won second place for her essay entitled "Uncle George: Attacked, He Cared for Another." **Jason Weisburd**, from **General Douglas**



WEISBURD

MacArthur High School in **Levittown, New York**, wrote, "As I look back, I consider my greatest heroes to be my father, my mother, and my grandmother—the three people who most nobly gave of themselves to help me." He won third place for his essay, "My Family: The Lessons We Live." **Douros and Weisburd** will receive \$500 and \$300 scholarships, respectively.



GUERRIER

This year's two honorable mentions each won a \$100 scholarship. **Kathia Guerrier**, from **Boyd Anderson High School** in **Lauderdale Lakes, Florida**, wrote, "My hero is someone that I don't even know... it is the person who saved my life..." in "A Stranger: Encounter in the Waves." **Michelle Koplitz**, from **Memorial High School** in **Eau Claire, Wisconsin**, wrote in her essay "My Sister: The Beat of Busy Wings" that "She does not realize how strong, how determined, how inspirational she is."



KOPLITZ

In addition, the Judges' Choice awards for this year are: "A Teacher: Rights, the Most Important Lesson" by



KESSEL

Jonathan Kessel from the **Model Secondary School for the Deaf** in **Washington, D.C.**; "My Grandfather: In His Hands" by **Elizabeth Tricase** from **Bishop Grimes High School** in **East Syracuse, New York**; and "My (Many!) Teachers: Skilled, Knowledgeable, Passionate, Heroic" by **Margaret Tufo** from **Smoky Hill High School** in **Aurora, Colorado**.



TUFO

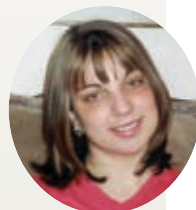
This year's Editors' Choice awards are: "My Teachers: Stepping Up in Times of Terror" by **Jackie Brower** from **Murry Bergtraum High School** in **New York, New York**; "My Father" by **Quinton Petty** from the **North Carolina School for the Deaf** in **Morganton**; "My Mother" by **Daniel Foley** from the **EDCO Program for the Deaf and Hard of Hearing** at **Newton North High School** in **Newtonville, Massachusetts**; "Mama" by **Jusley Ramirez** from the **Model Secondary School for the Deaf** in **Washington, D.C.**; and "My Teacher" by **Ruth Anna Spooner** from the **Idaho School for the Deaf and the Blind** in **Gooding**.



SPOONER

For top winners who received scholarship money, the amount will be doubled for

students who choose to enroll at **Gallaudet University**. Special thanks to **Gallaudet University Press** for their donation of multiple copies of two books, *The Cry of the Gull* by **Emmanuelle Laborit** and *A Phone of Our Own* by **Harry G. Lang**. Each contest winner will receive a book. All participants will receive certificates of meritorious entry.



BROWER

Special thanks also to contest judges **Chris Heuer**, poet, writer, and **Gallaudet University** English professor; **Angela Laguardia**, English teacher at the **Model Secondary School for the Deaf**; and **Richard Jeffries**, literacy coordinator at the **Clerc Center** at **Gallaudet University**.



PETTY

Winning essays can be viewed in the Spring 2003 issue of *World Around You* magazine, which is published by the **Clerc Center**. To receive a copy of this issue, contact: **Tim Worthylake**, *World Around You*, **KDES PAS-6**, **Gallaudet University**, **800 Florida Avenue, NE, Washington, DC 20002-3695**; (800) 526-9105 (V/TTY); (202) 651-5708 (FAX); or **Timothy.Worthylake@gallaudet.edu**.



RAMIREZ



FOLEY

Deaf Sculptor Donates a Totem Pole to MSSD

By Rosalinda M. Ricasa

Carl "Li'l Bear" Romano, a deaf sculptor and an adopted son of the Northern Cheyenne Tribe in Sioux, S.D., has always wanted to give a totem pole to Gallaudet University. He finally fulfilled his wish last spring when he installed a 14-foot, 1,800-pound totem pole at the Model Secondary School for the Deaf (MSSD).

The ceremony was part of an event sponsored by the Gallaudet Department of Business, the Gallaudet Development Office, and the Laurent Clerc National Deaf Education Center to honor successful deaf businesspeople.

A group of enthusiastic teachers, staff, and students gathered at MSSD to witness the unveiling of the totem pole, which will be on permanent exhibition in the library. In her introductory remarks, Dr. Katherine A. Jankowski, dean of the Laurent Clerc National Deaf Education Center, said, "We are most fortunate to be the recipient of a great work of art from a man who is well-known for his artistry. We are truly grateful to Li'l Bear for this generous gift to the school."

After the pole was unveiled, Romano performed an Indian blessing around it using a sacred feather to waft incense to the north, south, east, and west directions in the room.

Following the blessing, Romano, standing next to the totem pole with Pam McMahon who helped with its painting, explained the meaning of the symbols. The totem pole, which took three months to carve, has an eagle to reflect MSSD's mascot, a bear to represent Li'l Bear, a bear cub to show Li'l Bear's love of children, and a bison to reflect Gallaudet's mascot. These images were carved into a single hemlock tree and followed the designs of the Northwest Coast Indians and Haida.

The designs and colors of each of the images Romano used on the totem pole hold a special meaning for Native American tribes (e.g., the eagle represents a great spirit). The four colors used—red, yellow, black, and white—represent not only the eagle, wolf, bear, and bison but also the north, which brings the snow that prevents many sicknesses; the south, which brings healing; the east, which brings us a new day; and the west, which brings us the water of life. The turtle with a cross, also carved into the totem pole, represents the directions and is a symbol of the Earth and of the North Cheyenne tribe.

Romano has created over 30 totem poles; the one he created for MSSD is his largest to date.

"The MSSD totem pole will enrich the history and diversity of the Clerc Center community," said Dr. Jankowski. "If you have not yet seen this amazing work of art, I invite you to come and see it."





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New Members Join NMAP

By Rosalinda M. Ricasa

Four individuals have recently joined the Laurent Clerc National Deaf Education Center's National Mission Advisory Panel (NMAP), and one individual has retired. NMAP assists the Clerc Center in making sure its programs are responsive to the needs of its constituencies. Appreciation is extended to our "retiree," Gabriela Sorensen, and our new panel members.

We asked that each tell us about...

- your FAMILY
- your EDUCATION
- an ACCOMPLISHMENT that you are particularly proud of
- the major factor in your CAREER CHOICE
- a TEACHER who particularly influenced your life
- your favorite BOOK or a book you are reading
- your FIRST JOB

Roberta CORDANO

B.A. in sociology from Beloit College;
J.D. from the University of Wisconsin
Interim board president,
North Star Academy

Disability Services
University of Minnesota

FAMILY I am from a deaf family. My parents and my grandparents on my father's

side were deaf. I live with my family in St. Paul, Minnesota.

ACCOMPLISHMENT I am one of the founders of the first bilingual/bicultural pre-K through eighth grade charter school in the U.S.—the Metro Deaf School, which opened in 1993. I am leading an effort to establish a charter high school, the Minnesota North Star Academy, through the University of Minnesota's Center for School Change with funding from the Bill & Melinda Gates Foundation.

CAREER CHOICE I decided to become an attorney at a very young age. I had a firsthand experience with the law when

Section 504 was interpreted in a way that adversely affected my sister's and my access to secondary education.

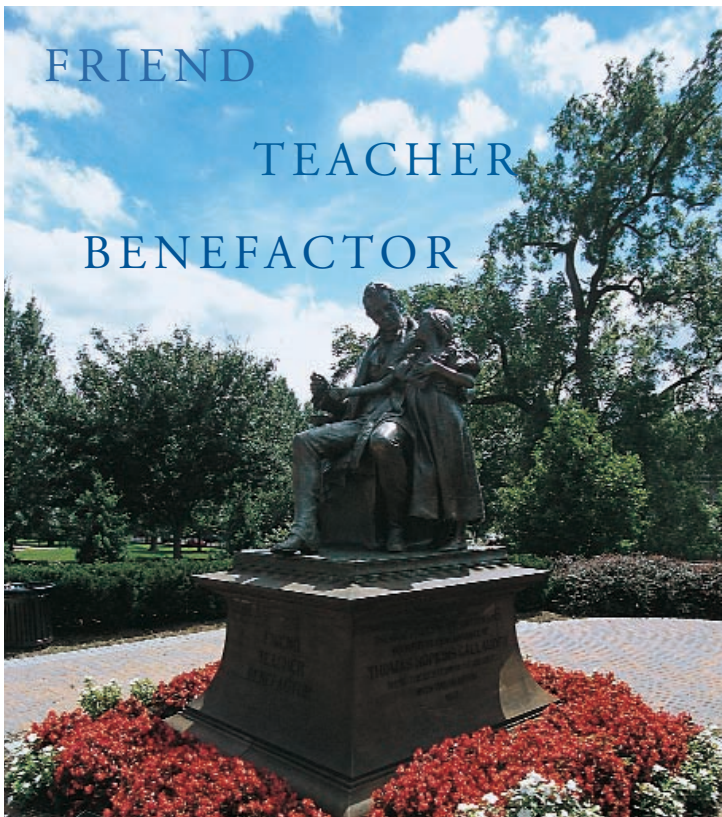
TEACHER Helen Williams was a deaf woman who taught at the Wisconsin School for the Deaf. She was formerly a principal at the Missouri School for the Deaf and a professor of Latin at Gallaudet.

While I never had her in school, she was a close family friend. She encouraged me and challenged me to be better than I wanted to be.

FAVORITE BOOKS I just finished *Confessions of Madame Psyche* by Dorothy Bryant and one of my favorite books is *Watership Down* by Richard Adams.



FRIEND
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FIRST JOB I worked at McDonald's in Delavan, Wisconsin, as a teenager. I assembled orders and cooked French fries.

DaeWon Kim CORWIN

B.A. in American Sign Language, currently working on master's in counseling Outreach Specialist
New Mexico School for the Deaf
Freelance interpreter

FAMILY I have four children, ages 3 months to 19 years. Our oldest daughter is deaf and a freshman at Gallaudet University.

ACCOMPLISHMENT I've been married for 21 years, and I have a wonderful family.

CAREER CHOICE

The joy of learning

TEACHER

I had an elementary school teacher who took extra time after school to help me as I was learning English, having been adopted from Korea at 6 years old. She taught me to read, which is a very precious gift.

FAVORITE BOOKS I am currently reading *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures* by Anne Fadiman.

FIRST JOB I was 16 years old and worked as a busboy at a Mexican restaurant. It was great because I got lots of free food!



Joan FORNEY

B.S. and M.S. from the University of Illinois at Springfield,
Ed. S. from Western Illinois University

Superintendent
Illinois School for the Deaf

FAMILY I have been married to my husband, Bill, for 34 years.

We have two grown children. Our daughter, Deborah, is completing her doctorate degree in music performance at the University of Maryland. Our son, Michael, and daughter-in-law, Lisa are parents of our grandson, Colin, and live in Champaign, Illinois.

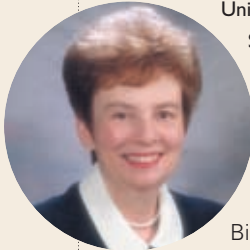
ACCOMPLISHMENT I am particularly proud of establishing two programs at the Illinois School for the Deaf: The Hearing and Vision Connections program which serves children from ages 0-3 and their families, and the Highlighting Education and Resources program which serves students from ages 3-21.

CAREER CHOICE I always knew I wanted to be a teacher and made the decision to teach students who were deaf and hard of hearing.

TEACHER My supervising teacher for student teaching, Dr. Pat McAnally was an inspiration to me. She held students to high standards. Her students loved and respected her. She richly deserved her students' respect.

FAVORITE BOOKS I am currently reading *God Knows His Name: The True Story of John Doe No. 24* by David Bakke.

FIRST JOB My first job was teaching preschool at the Illinois School for the Deaf.



Jana L. JONES

B.A. and M.A. in special education from Utah State University, Ph.D. in educational leadership from Idaho State University

Bureau chief of Special Education
Idaho Department of Education

FAMILY I am married with three daughters, one of whom is married. All my three girls have graduated from college. My husband has his own engineering firm in Idaho Falls.

ACCOMPLISHMENT I am

most proud of my three daughters who are wonderful, independent young women. I am also proud of completing my doctorate degree.

TEACHER My first grade teacher, Victoria Goodman, was particularly influential in my life. She made every child feel that he or she was the most special child in class. She still does.

FAVORITE BOOKS I am reading *The Lovely Bones: A Novel* by Alice Sebold now, and I have too many favorite books to name them.

FIRST JOB My first job, at age 14, was working for my dad as a receptionist. I worked for him through the summer and after school for many years. It was nice to have a summer job but it was horrible answering phones and working for my dad.



Gabriela SORENSEN

B.A. from the University of Arizona, M.A. in special education from Arizona State University, and taking courses for a second master's degree



Principal
Phoenix Day School for the Deaf, the Arizona State Schools for the Deaf and Blind

FAMILY I am a widow with two children, a girl and a boy, who are also educators. My girl is a fifth grade teacher and my boy is a high school science teacher.

ACCOMPLISHMENT I'm proud of my long marriage and of having raised my two children in partnership with my husband. I am proud of the team I was able to put together as principal

to provide services to the children, the innovations we have implemented in literacy, and the new After School Program we started two years ago.

CAREER CHOICE Attending the open house at the Arizona School for the Deaf many years ago influenced me to go into deaf education.

TEACHER I think it was my high school English and journalism teacher. She taught me how to learn from my mistakes and to think critically. She helped me realize that the learning and understanding that take place through the processes are more important than the end product itself.

FAVORITE BOOKS My favorite book is *War and Peace* by Leo Tolstoy. I like the complex characters and the historical nature of the novel. I like anything about history.

FIRST JOB My first part-time job in college was working in a hospital, preparing food trays for the patients. It was grueling.



MSSD Students Explore Coast Through Computers

By Susan M. Flanigan

Last year students from the Model Secondary School for the Deaf (MSSD) explored the terrestrial and marine ecosystems that extend from California's coast to the Channel Island National Marine Sanctuary—without ever leaving their school. The experience was part of the JASON Project XIV: From Shore to Sea, in which a consortium of 200 universities worked in partnership with the government to develop advanced network applications and technologies.

Dr. Robert Ballard, the famous deep-sea explorer who discovered the sunken *Titanic*, developed the Jason Project after he received 16,000 letters from school children who wanted to know how they could become explorers like him. Now every year Ballard takes students—he calls them “argonauts”—to explore terrestrial and marine environments. Schools are also able to experience some of the activities through special Internet connections.

“Our students focused on the part of the curriculum related to pinnipeds—animals such as sea lions, walruses, and seals,” said MSSD science teacher Mary Ellsworth. “During the last week of January, we were able to observe a live and captioned broadcast from the Channel Islands through a connection to the University of Rhode Island.

“Because of Gallaudet’s special Internet connection, we had the potential to participate in the live broadcast, with our students asking questions from a mobile camera on site at MSSD.”

In Phase Two of the project, MSSD teamed up with students in Irvine, California, the Rhode Island School for the Deaf, and the Indiana School for the Deaf. “Students from these schools formed the very first Virtual Argonaut Team,” said Ellsworth. “As a team we worked on some special JASON curriculum with students, and we participated in videoconferences with a science expert and with Raimondas Doblmeier, the first deaf argonaut to the JASON Project.”

Supporting MSSD teachers for the project were: Mary Ellsworth, Mark Tao, Barbara Fields, Dan Lasher, and Sarah Raymond.

New Cochlear Implant Paper Online

By Mary Ellen Carew and Jennifer Hinger

KidsWorld Deaf Net has posted a new document, “Cochlear Implants: Navigating a Forest of Information...One Tree at a Time,” by Debra Nussbaum, in English and Spanish. Nussbaum, the coordinator of the Laurent Clerc National Deaf Education Center’s Cochlear Implant Education Center, has more than 25 years of experience working with deaf and hard of hearing children and their families.

This easy-to-use document is designed to help parents and educators find their way through the extensive forest of information about cochlear implants. It also provides insights into topics that are not fully covered on the Web, such as educational and communication considerations for the diverse group of children with cochlear implants.

The topics are presented in modules, including: “Who is a Candidate for a Cochlear Implant,” “Making the Decision,” “Using Sign Language with Children Who Have Cochlear Implants,” and “Resources.” Future modules will include “The Deaf Community and Cochlear Implants,” and “Training the Ear to Listen.”

KidsWorld Deaf Net is sponsored by Gallaudet University’s Laurent Clerc National Deaf Education Center with support from the AT&T Foundation.

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‘Survivor’ Returns to MSSD Thanks School for ‘Identity’

By Todd Byrd

Christy Smith, who gained fame in recent months as one of the contestants on the CBS show “Survivor: The Amazon,” became a household name among millions of television viewers who admired her for her interpersonal skills, her honesty, and her dogged determination to win.

But she confided to the 45 graduates at the 33rd commencement of the Model Secondary School for the Deaf (MSSD) that she didn’t always possess those qualities. “My life changed when I started at MSSD; it gave me an identity,” she said. The supportive atmosphere of the school and the newfound freedom to communicate led her to find self-confidence and a positive outlook on life, she said.

Many role models helped her find herself, Smith said, the most noted being Steven Doleac, who is now a recreation specialist in Athletic Activities. “I’m really grateful to Steve. He’s the person who said, ‘Christy, you’ve got to believe in yourself.’”

Smith said it was her father, an avid “Survivor” viewer, who convinced her to try to get an interview with the network. Smith was one of 60,000 applicants. She went to five interviews, and at each one a recurring question came up: How could a deaf person manage with other hearing contestants, especially when no interpreter would be allowed? After being selected she admitted to having some fears, but she did her best to overcome them.

Even though she didn’t walk away with the \$1 million prize, she earned the most consistently positive ratings among the viewership to date in the “Survivor” series. “The ‘Survivor’ experience,” Smith said, “was very enriching and opened a lot of doors, and I’ll see where it takes me.”

As she spoke to MSSD’s graduates, she gave her own formula for survival that has helped shape her life: make a plan to succeed and follow it; be patient in achieving goals; practice in order to make improvements; and persevere to overcome obstacles.

Students Geoffroy Mompremier and Rachel Burton also addressed the class. Mompremier compared the 12 years of school to a set of stairs, reading from the Langston Hughes poem “Mother to Son,” which uses stairs as a symbol for the ongoing phases of life, to illustrate his point. “We can now look back and see that the stairs and landings we have climbed in the past are slowly dissolving and a new door appears in front of us,” said Mompremier. “It’s time to open the door and find new stairs to climb. Farewell, MSSD! Hello, world!”

Burton compared her days as a freshman entering MSSD from a public school mainstream program, afraid that she would not be accepted, to today, “a strong, confident woman about to graduate from a school that has truly done a great job of preparing me for my future.” She praised MSSD for being a diverse, yet close-knit community, and thanked the school for giving her self-esteem.

Clerc Center dean Katherine A. Jankowski encouraged the graduates to use their MSSD experience to face these challenges with courage, and gave them her best wishes: “Go forth and soar beyond your dreams to success.”



Alan Robert Williams and Stephanie Joyner Scholarships Announced

By Susan M. Flanigan

Abiodun Odunlami and Jessica Valencia, two graduating Model Secondary School for the Deaf (MSSD) students, received \$5,500 each in scholarships for college as part of the Alan Robert Williams Scholarship. The award is a memorial to MSSD graduate Alan Robert Williams from his family to honor the enthusiasm with which he lived his life.

In addition, student Kevin Farrell became the first recipient of the Stephanie Joyner Scholarship, a \$500 award that is given to provide financial assistance for postsecondary education or training. The scholarship is named in memory of Stephanie Joyner, who as an audio/video production specialist for the Clerc Center, poured her talents and enthusiasm into Clerc Center projects, as well as filming MSSD’s performances, graduations, and ceremonies.

These students were among those whose accomplishments were celebrated at the fourth annual awards ceremony at MSSD, where they were recognized for achievements in academic, social, and community service areas.

“We are here today to celebrate the whole person,” said Dr. Katherine A. Jankowski, dean of the Laurent Clerc National Deaf Education Center. Jankowski emphasized that students need to develop skills in academics, communication, emotional intelligence, and life planning.



Wednesday Work Leads to Lifelong Skills

By Mary Ellen Carew

Every Wednesday morning during the school year, sophomores and juniors at the Model Secondary School for the Deaf (MSSD) work at real jobs in various locations on the Gallaudet University campus. The seniors go off campus and stay all day at internships in places as diverse as the Library of Congress, the Rock Creek Park Visitor Center, the Department of Justice, Jet Hair Designs, the Capital Children's Museum, Providence Hospital, the Smithsonian Institution, and Bertucci's Restaurant.

The students receive school credit and work experience, although not pay, in exchange for their work. Freshmen participate in work readiness classes, but do not take part in actual on-the-job activities.

The MSSD Work Experience Program was inspired by a similar program at Madeira, a private girls' school in McLean, Virginia. It was designed by Clerc Center Department of Transition Coordination staff members Allen Talbert, work experience counselor, and Marilyn Galloway, coordinator of collaboration projects and special programs, with strong encouragement from Clerc Center Dean Katherine A. Jankowski.

Students often begin their work experience with little idea of their own capabilities or what they want to do after high school. Over the course of the three-year program, however, they compile impressive resumes. They also gain such basic knowledge as how jobs work, how to apply for a job, and what goes into a good work ethic, such as showing up for a job or an interview on time and in suitable attire.

Transition counselors work with the various on-campus departments, businesses, and organizations to develop job possibilities for the MSSD students. They try to match each student with a job that relates to his or her postsecondary goals and interests. Once a student and a workplace have connected, an interview follows, after which the student is usually hired. MSSD supplies fares for transportation and lunch money to those working off campus. Talbert is currently creating a videotape of students talking about their experiences on the job.

Above: MSSD student Shabnam Razmpour with supervisor Jill Siegel.



Shared Reading Project Bookmarks

"Tips for Reading to Your Deaf Child"

These bookmarks offer strategies parents and caregivers can use in reading to their deaf and hard of hearing children. The bookmarks are free but limited to 100 per customer.

When ordering more than 25 bookmarks, please include \$5.00 for shipping and handling. To order, see <http://clerccenter.gallaudet.edu/products/order.html>.

Available in: Arabic, Bengali, Cambodian, Chinese, English, Farsi, French, Hmong, Inuktitut, Korean, Navajo, Portuguese, Russian, Somalian, Spanish, Tagalog, Thai, Urdu, and Vietnamese.



Summer Literacy Institute

Summer, 2004

The Clerc Center puts together the best of its literacy workshops and combines them into one high impact week! Designed especially for parents and caregivers, educators, and other professionals who work with deaf and hard of hearing students, the Literacy Institute provides instruction in the following:

- **Literacy — It All Connects**
- **Reading to Deaf Children: Learning from Deaf Adults**
- **Read It Again and Again**
- **Leading from Behind: Language Experience in Action**

For further information, contact: Patricia.Dabney@gallaudet.edu.

WORKSHOP

Families Count!

This workshop helps participants organize Families Count! sessions in their own schools, in which students, teachers, and families enjoy fellowship and good food while learning math concepts through hands on activities.

October 2 Salt Lake City, Utah
Western Region

WORKSHOP

Leading from Behind: Language Experience in Action

This workshop provides an introduction to using language experience in a student-centered classroom for classroom teachers and other educators. Parents and dorm staff will also find it of interest.

November 8 San Diego, California, Western Region

TRAINING PROGRAM

Integrating Technology

This training provides teachers of the deaf with project based, hands-on training and practice with a variety of technologies for classroom instruction. The course includes: using a digital camera and basic graphics manipulation, making a Web page, using a graphic organizer for brainstorming and planning, searching the Internet for classroom links, and other exciting skills.

Prerequisite: basic computer literacy skills and knowledge of the Internet, word processing, and presentation software.

Summer, 2004

Open to teachers from the Midwest, Pacific, and Mid-Atlantic regions. Contact: Mid-Atlantic Region

GLOBE (Global Learning and Observations to Benefit the Environment)

GLOBE is a worldwide science and education program that coordinates investigations by students, teachers, and scientists involved in studying and understanding the global environment. This five-day workshop qualifies teachers and their schools for full participation in the GLOBE program.

Summer, 2004

Open to teachers from the Midwest, Pacific, and Mid-Atlantic regions. Contact: Mid-Atlantic Region

The Shared Reading Project: Keys to Success

This five-day training program is designed to prepare site coordinators to establish a Shared Reading Project in their own schools or programs. For educators, administrators, and parent leaders, this workshop is based on the highly acclaimed program where deaf tutors teach parents and caregivers effective strategies for reading books with their children during home visits.

November 17 – 21 White Plains, New York
Northeast Region

TRAINING

WORKSHOPS

Literacy—It All Connects

This workshop provides information about reading to students, dialogue journals, shared reading and writing, writer's workshop, independent reading, journals and logs, guided reading and writing, language experience, and research reading and writing.

November 7 Olathe, Kansas, Midwest Region

November 7 Riverside, California, Western Region

November 8 San Diego, California, Western Region

Reading to Deaf Children: Learning from Deaf Adults

This effective workshop teaches techniques known as "the 15 Principles for Reading to Deaf and Hard of Hearing Children." Highly interactive, this workshop is available in a three-hour or six-hour format, and is for parents, caregivers, and educators.

October 24 Bradenton, Florida, Southeast Region

Read It Again and Again

This workshop teaches participants to incorporate a wide array of learning activities in reading the same book to children over successive days. This workshop is of special interest to classroom teachers and administrators.

October 25 Bradenton, Florida, Southeast Region

November 8 Olathe, Kansas, Midwest Region

Contact the Clerc Center or the Gallaudet University Regional Center in your respective region (see sidebar) for more information or to register for a training program or workshop.

In addition, if you are interested in hosting a workshop at your location, please contact the Clerc Center Office of Training and Professional Development or the Gallaudet University Regional Center in your respective region.

For more information

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Clerc Center Questionnaire

We Value Your Opinion!

Please Fill Out This Questionnaire about Critical Needs in Deaf Education

The Clerc Center is collecting public input on critical needs for deaf and hard of hearing children. As Dr.

Jankowski describes in her letter on page 1, our Center focuses on three priority areas: family involvement, literacy, and transition from high school to postsecondary education and employment.

You can help us by telling us what you feel are the critical needs in these priority areas. What are the needs related to working with deaf and hard of hearing children, their families, and the professionals who work with them?

We plan to summarize the results we receive in an upcoming issue of Odyssey magazine. No personally identifying information will be included with your responses.

1. What do you feel are the critical needs in involving families in the development and implementation of programs for their deaf and/or hard of hearing children?

2. What do you feel are the critical needs in helping deaf and hard of hearing students become full participants in their families?

3. What do you feel are the critical needs in helping deaf and/or hard of hearing students to become proficient readers and writers?

4. What do you feel are the critical needs as deaf and/or hard of hearing students make the transition from high school to postsecondary education or employment?

TELL US

Who Are You?

- ☐ Teacher
- ☐ Parent
- ☐ Student
- ☐ Other Professional
- ☐ General Public

- ☐ Deaf
- ☐ Hard of Hearing
- ☐ Hearing

Where Are You From?

- ☐ Residential School for the Deaf
- ☐ Day School for the Deaf
- ☐ Public School - Reg Classroom
- ☐ Public School - Resource Room
- ☐ Public School - Self Contained Classroom
- ☐ Post Secondary
- ☐ Organization/ Agency
- ☐ Hospital/ Homebound
- ☐ Other _____

Are you associated with deaf and hard of hearing students who...

- ☐ Live in rural areas
- ☐ Are members of diverse racial/ethnic groups
- ☐ Have additional disabilities
- ☐ Are lower achieving academically
- ☐ Live in homes in which a language other than English is spoken

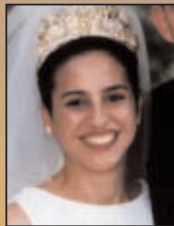
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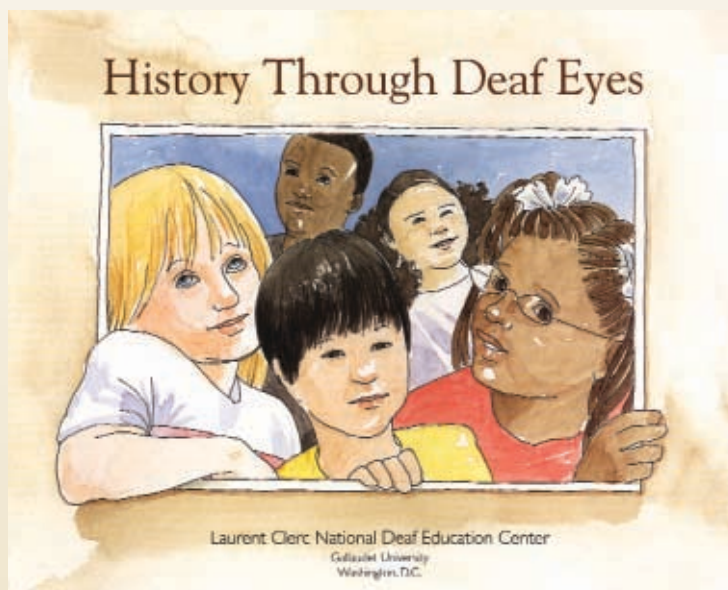
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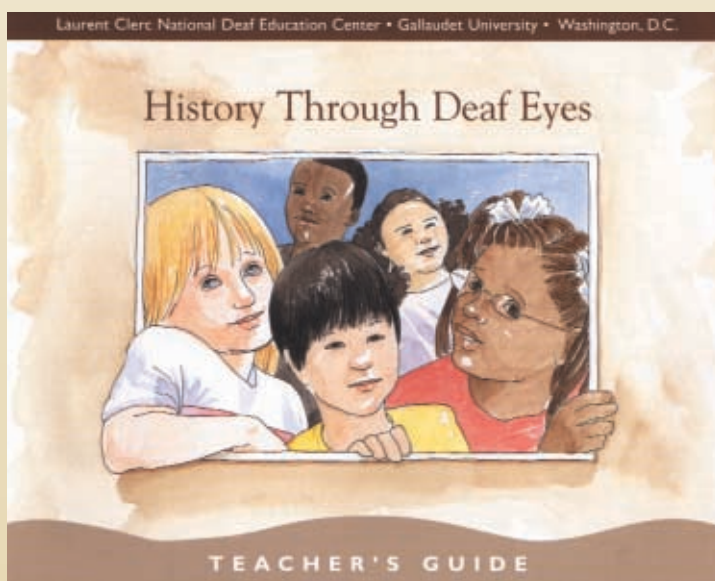
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