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CHAPTER SIX

Early Bilingual Lives of Deaf Children

CAROL A. PADDEN

Introduction

Deaf people join groups of people all over the world who must manage two languages, one of which is a dominant-world language and the other a minority, often unfavored language.[1] In the United States and Canada, Deaf people who use American Sign Language (ASL) as the preferred everyday language interact, often intimately, with individuals who use English – hearing teachers, relatives, and co-workers. Deaf people have many opportunities to use only ASL, but rarely can they avoid contact with English. They are more likely to have parents who use English than parents who use ASL. They are more likely to have teachers who are native speakers of English. Many have co-workers who speak only English.

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[1] I follow a convention used elsewhere in which the capitalized form "Deaf" is used in referring to those deaf individuals whose primary everyday language is American Sign Language. The audiological condition of deafness is marked with the lowercase form "deaf."

The language lives of Deaf people involve constantly moving between languages, ASL and English, and between cultural worlds, the worlds of ASL signers and English speakers. Because ASL does not have a written system, Deaf people use written English both as a means of contact with English and as a means of storing information about themselves and their language. Deaf people recite ASL poems and make videotapes of poetry performances, but their analyses of poetry appear in written English. Deaf children in a third grade classroom read a paragraph together in English, and then explain its meaning to each other in ASL. Deaf teenagers read computer manuals in English and explain to friends in ASL how to write a short program on the computer. Hardly a day goes by without changing languages and changing channels, from signing to reading, from writing to signing, and back again.

As it turns out, we know more about ASL and about ASL signers than we do about ASL signers who also know English. Bilingualism in Deaf individuals is a difficult concept to define. Part of the difficulty is that bilingualism, as it has been used of hearing individuals who have command of two spoken languages, has been widely understood as a linguistic concept to refer to matched or "balanced" bilinguals whose command of both languages is equivalent in all domains and functions. Grosjean (1992) argues that this definition is not only idealized but misleading as well.

More often than not, individuals who have acquired and use two languages do so under different social and cultural contexts. Their skill in one language may not be matched in the other. The unevenness of their acquisition and skill is not due to lapses in language ability, but is the result of a natural consequence of the circumstances in which they are language users. Take for example a bilingual child whose father is an immigrant and whose the mother is a native of the country in which the family lives. The social opportunities for the child to use the father's language will be less public than those for the mother's language. The child uses the father's language in intimate family settings, and because the father's language is not used in school, the child will not learn that language in the context of school and as a result will not learn how to read and write in that language. The child is not an "imperfect" bilingual who speaks both languages but is able to read and write only one, but a bilingual whose life circumstances have engendered different skills in two languages.

In the current discussion about language competence in deaf individuals, some have argued that "bilingualism" is not an appropriate term for those who use American Sign Language (ASL) and English since many

Deaf individuals do not acquire or use English in spoken form; instead their interaction with English is said to be primarily through reading and writing. I would like in this chapter to echo Grosjean's observations and reframe the discussion of bilingualism in Deaf signers along different lines. Instead of inquiring in the abstract whether bilingual signers have equal competence in ASL and English, the question becomes: What are the contexts of their contact with English, and how do these contexts shape their knowledge of English?

Asking this type of question will have several consequences. First, instead of defining deaf people as a single population, it becomes important to define groups of deaf people within this population in terms of their social and cultural worlds. Their competence in English is linked to the roles they play, the worlds they move within, and the tasks they engage in. Second, deaf people's skill in English should not be matched against an abstract or idealized notion of linguistic competence. Bilingual Deaf people's competence should be viewed as developing out of a particular configuration of language experiences. Many do not speak English, but interact with it primarily in written form. Their interaction with English is by way of systems which represent English in specific ways.

As a way of understanding bilingualism in Deaf adults, I summarize here studies conducted by myself and my colleagues on a group of young Deaf children who have frequent contact with English (Padden & LeMaster, 1984; Padden, 1991, 1993, and Chapter 5 of this volume). The children were all being educated at a residential school for deaf children. Many, but not all, had families who signed. All were native or fluent users of ASL. Some could speak English to an extent, but none would have described themselves as skilled in spoken English. These characteristics, in addition to others, gave rise to a range of social and cultural experiences in which signing was located centrally in their language lives, but English played a vital role as well. The social lives of these children contrasted in a number of ways with those of deaf children who attended schools organized around different guiding principles, such as public schools. Both groups shared the difficulty of access to spoken English and a desire by their parents and teachers that they become competent in written English, but the organization of language and social resources was different in the two groups.

It would be inaccurate to describe the children in our studies as acquiring signed language "first" at home, then acquiring English at school, since for many, their interaction with English began at a very early age. Parents introduced print to children as young as three years old, and by

four years of age, the children are actively using systems of English. By systems of English, I refer at least to "fingerspelling" and "written English," although other systems have been identified (Lucas & Valli, 1992; Maxwell, 1980). In the first section I describe Deaf children's early use of a system linked to English orthography, called "fingerspelling," in which they manually represent English words in alphabetic form. The second section looks at examples of their early written creations of English words. The children's use of these two systems, separate but related, reveals much about the early manipulation of English and signed language by young Deaf children. My goal here is to show the complicated language lives of young ASL signers, as represented by the frequency with which they move back and forth between ASL and English within the same activity. In this sense then, bilingualism refers to the way in which language users marshal resources within and across languages, which may turn out to be unevenly distributed between languages.

Early Language Lives of Deaf Children

Thanks to a growing interest in language acquisition, there are now richer accounts of how young Deaf children acquire a signed language. The major result of this work has been to show that first-language acquisition of a signed language follows a pattern comparable to first-language acquisition of a spoken language (see Newport & Meier, 1985; Meier, 1991, for overviews). Studies of ASL acquisition have focused primarily on an aspect of grammatical structure and the way in which the Deaf child masters this structure over the course of development. From this work, there is no reason to believe that acquisition of a signed language should be considered unusual or deviant.

But these studies pointedly avoid discussing how these same children acquire English structures alongside their mastery of a signed language. If during the course of research on ASL morphology, for example, the child produces fingerspelled items or uttered English words, or perhaps interacts with written text while signing, the English language activities are not reported. The result is an incomplete view of the dual language lives of Deaf children, especially their acquisition of English as they are acquiring ASL.

Instead, much of what we know about young signing children's early use of English relates mostly to the difficult task of learning to read and write (Marshall & Quigley, 1970; Trybus & Karchmer, 1977; Karchmer, Milone, & Wolk, 1979; Conrad, 1979; Moores, 1987). This work documents

that as a group, Deaf children have difficulty learning to read and write English, although a minority do master these skills. But what we do not know enough about is how young Deaf children encounter and use English in written form at the same time they sign. A notable exception is a detailed description in Maxwell (1980) of the simultaneous acquisition of ASL, fingerspelling, writing, and manually coded English by a Deaf child of Deaf parents. Subsequent studies of emerging literacy (Maxwell, 1984; Ewoldt, 1985; Padden & LeMaster, 1985; Erting, 1992; Padden, 1991; Padden, Chapter 5 of this volume; Ramsey, 1993) have revealed more about practices of reading and writing in signing families, but the quantity of this work has yet to reach a critical mass. How does the children's competence in the different systems emerge? How does competence in ASL interact with competence in other systems of English? In short, we know little about early bilingual abilities of young Deaf children.

English in Signing Environments

There is at least one good reason why the quantity of work on early bilingual English-ASL acquisition in Deaf children is so small: There is a real problem of how to define English in naturally occurring signed language contexts (Lucas & Valli, 1992). "English" in signing has variously been referred to as fingerspelling, reading and writing, mouthing, and speaking, as well as literal translations of English phrases into ASL (called "Sign English," or "Contact Signing"; (Lucas & Valli, 1992). It is vexing to consider the place of English in signed discourse for the reason that English does not appear in its most familiar form, as spoken discourse, yet it is assumed that English is present in signed discourse. Exactly where and how to describe English in such contexts is the basis of the problem.

I will offer here a different angle to this question of defining English in bilingual lives. Instead of asking what constitutes use of English in signing, I ask: How do the children acquire systems of English and how does this acquisition coincide with use of ASL? Both fingerspelling and writing English words involve English, or at the very least, we believe they do. How do deaf children learn to fingerspell and spell English words in written form? Whatever claims we want to make about bilingual acquisition of English and ASL will require that we view language acquisition as the development of interacting systems, each of which has specific social uses. Once we understand how fingerspelling and written spelling skills develop in young Deaf children and we are able to map them alongside

ASL, a picture of their developing competence in English will begin to emerge.

The Acquisition of Fingerspelling

ASL is one of a set of signed languages that use a separate manual system for representing oral language orthography. These manual systems can represent words ideographically, as in Chinese Sign Language for written Chinese characters; syllabically, as in Danish Sign Language's "mouth-hand system"; or alphabetically, as in Swedish Sign Language, British Sign Language, and ASL. These are among the better-known systems, but many sign languages lack a manual system for representing the dominant spoken language. The alphabetic manual system in ASL, popularly called "fingerspelling," is described as executing a single distinct handshape for each letter of the alphabet. Fingerspelling one's name, for example, involves making a handshape for each letter of the name in rapid sequence.

ASL is distinctive among sign languages for its extensive use of fingerspelling. In a limited measure of frequency, fingerspelled words constituted an average of 7% of all lexical items across four different signed narratives (Padden, 1991). Fingerspelled words in ASL include English names of individuals and places, as well as words that are intended to remain foreign, such as representations of titles and scientific names. But not all fingerspelled words are novel; some coexist with signs. For example, R-E-N-T, the fingerspelled word, coexists with RENT, the sign.[2] The sign CAR coexists with C-A-R.

The distribution of fingerspelled words in signed discourse is not equal across all grammatical classes. Over 50% of fingerspelled words identified in a set of signed narratives were nouns; those remaining were distributed as adjectives, verbs, functor words, and pronouns (Padden, 1991). Poplack, Sankoff, & Miller (1988) observed a similar distribution of "Anglicisms" in Canadian French, in which nearly 65% of their sample of words borrowed from English were nouns.

Fingerspelling contrasts with a related set of loan vocabulary in ASL in which fingerspelled words undergo phonological and morphological change and become lexicalized (Battison, 1978). The loan sign #BACK has a reduced number of handshapes, from four to two, and it is two-handed with a path movement. Its distribution is restricted to a verb with the

[2] Fingerspelled items are here represented by letters separated by hyphens. ASL signs are represented by capitalized English glosses. Fingerspelled loan signs are represented by capitalized English glosses preceded by a pound sign (#).

meaning "to reconcile, come back together again." In contrast, the fingerspelled word B-A-C-K represents all letters of its written English word, and can be used for nearly any of its meanings in English, for example, "my back hurts" or "the back of my shirt." Because the meaning of a fingerspelled word (as distinguished from a loan sign of fingerspelled origin) more closely resembles its written counterpart, I suggest that fingerspelled words be categorized as "foreign vocabulary." Foreign vocabulary in other languages closely resembles fingerspelled vocabulary in type and category, such as anglicisms in Canadian French (e.g., "mon learner's permit," or "l'halloween").[3] Poplack et al. (1988) argue that in extended contact situations such as in Quebec, borrowed vocabulary plays a variety of functional, aesthetic, and social roles in the language lives of monolingual and bilingual speakers. Canadian French and ASL have much in common; both coexist with a dominant-world language, and both have speakers who cannot avoid living alongside speakers of another language.

The Relationship between Fingerspelling and English

Fingerspelling is a marked manual system (compared to natural signed languages), imported into ASL putatively for representing foreign words.[4] It is popularly referred to as "English," and is said to increase in frequency as the signer attempts to "incorporate more English" in signing. Some have bemoaned the decline of ASL by pointing to the increased frequency of fingerspelled words in younger signers compared to older signers.[5] Others have claimed that the elite members of the Deaf community use more fingerspelling, in so doing marking their affinity with the language of the larger society. Interestingly, Poplack et al. (1988) identify the intellectual elite and the youth subculture among the several subgroups active in borrowing and transmitting English vocabulary into Canadian French. As with any bilingual community, the roles and functions of ASL and English are matters of political signification more than simple personal choice. Insofar as fingerspelling is said to be a representation of English, its use by signers is politically charged.

[3] These examples were drawn from a longer list gathered by Danielle Ross. I thank her for her help with these data.

[4] The American system of fingerspelling can be traced to an alphabetic system invented by a hearing priest in the seventeenth century, Juan Pablo Bonet, who developed it for the purpose of tutoring a young deaf boy.

[5] There is good evidence that fingerspelling has coexisted with ASL for at least this century. Films of signed lectures and narratives dating from 1913 feature fingerspelling interspersed with signing (National Association of the Deaf, 1913).

From a structural point of view, however, it is one thing to call fingerspelling borrowed vocabulary and another to call it "English." First, it represents English in alphabetic, not spoken, form. Second, its vocabulary is extremely selective, consisting largely of nouns, with verbs very rarely represented. Furthermore, signers do not fingerspell sentences except in situations where one is attempting to represent extended English text verbatim. For the most part, fingerspelling occurs only as words interspersed in signing. With this kind of distribution, it would be stretching any definition of a human language to call fingerspelling "English." More accurately, fingerspelled words are largely foreign vocabulary used as a resource within the larger resource of ASL.

Early Use of Fingerspelling by Deaf Children

Two studies (Padden & LeMaster, 1985; Padden, 1991) involving six Deaf children ranging in age from two years nine months to four years nine months, examine fingerspelling in a sample of white middle-class Deaf families. The parents used fingerspelling less often with their children than when conversing with adults. Signing adults in a separate study used an average of about 7% fingerspelled words, but in the signing of two adults to their children, an average of about 4% of all lexical items were fingerspelled. Two general observations emerged about early use of fingerspelling. First, fingerspelling appeared early in the child's vocabulary, long before the child could read or write. Its connection to English appeared later, and English was not a condition of its use, at least by young children. Second, the description of fingerspelling as a representation of English alphabetic characters is misleading on one level; it may be more useful and accurate to describe it as a special manual system with its own organizational properties which has links with English alphabetic characters.

With respect to the first observation, videotapes of children as young as two years three months, two years seven months, and three years eleven months feature them attempting to fingerspell their names and the names of siblings. It is a source of great pride to middle-class Deaf American parents if their young children can fingerspell their own names. In one videotape, a child introduces herself by fingerspelling her name into the camera, then turns to introduce others in the room, mimicking the activity of fingerspelling. The children also attempt a small fingerspelled vocabulary of colors, foods, and common objects, such as "blue," "bus," "dog,"

and "rice." What characterizes this set of early fingerspelled vocabulary is that the fingerspelling of the word is performed almost as a single unit.

One father reported that his daughter used different movement contours for fingerspelling "rice" and "ice." R-I-C-E was fingerspelled with a distinctive semicircle, but I-C-E, with a short opening and closing of the fingers. Another child, recorded on videotape, attempts to spell D-E-L-L, but uses a single L handshape throughout while using the distinctive bounce for doubled letters. The children appear to treat fingerspelled words as a special manual activity in which the internal units are movement units, not units corresponding to alphabetic letters. Akamatsu (1982) has observed similar movement units in her study of the early fingerspelling efforts of young hearing children of Deaf parents. The words' link to English is not yet known to them; indeed, it does not need to be made obvious in order to use fingerspelling.

These early fingerspelling attempts give credence to an alternative analysis of fingerspelling not as sequences of handshapes, but as the execution of sequences of movement units which have one or more handshapes linked to them. Lars-Åke Wikstrom, a sign language researcher at the University of Stockholm, has analyzed another alphabetic fingerspelling system, coexisting with Swedish Sign Language, as consisting of a set of "core" movement units with other movement units in a dependent relationship to the core units. The core units are made up of a set of movement primes linked to one or two handshapes. A movement prime can consist of a twisting movement, a downward movement, or an upward movement. The combination of these core units and dependent units results in a fingerspelled sequence in which, for example, a sequence is made up of a twisting movement followed by a downward movement. Johnson (1993) has proposed an analysis of fingerspelling as made up of strings of morphemes, one morpheme for each letter of the alphabet, linked together by a set of phonotactic rules.

According to Johnson's approach to fingerspelling, its structure is analyzed not in terms of English alphabetic characters, but in terms of an independent phonological system that may turn out to be more linear, or to consist of more movement units in linear sequence, than ASL. ASL lexemes (the equivalent of a word in spoken languages) have been described as consisting of at least one but no more than two syllables (Coulter, 1988; Perlmutter, 1992). A fingerspelled sequence could well have more sequential units than ASL signs.

At least one consequence of this alternative view of fingerspelling is that the relationship between fingerspelling and English can now be

viewed as less direct and less obvious than one might expect. This more subtle and complex view has implications for how we understand bilingual acquisition of ASL and English. Crucially, it is very likely the case that fingerspelling itself is not "English," and Deaf children using fingerspelling at early ages are not necessarily acquiring English. It is possible that the children are acquiring fingerspelling, and the relationship between fingerspelling and English must be consciously constructed by the child at a later time. Up until now, we have assumed that the relationship between English and fingerspelling is an obvious and transparent one. We need to understand the acts by which Deaf children establish that fingerspelling is used to represent English.

How might Deaf children realize associations between fingerspelling and English? Our work suggests that one way associations are formed is by reorganizing links between fingerspelling and other language systems, notably ASL. This seems counterintuitive, that in order to learn fingerspelling's connection to English, the child needs to learn its connection to ASL. But the data show interesting relationships between ASL and fingerspelling. Among the more frequently appearing examples is the use of initialized signs in ASL. Initialized signs are a category of lexemes in ASL in which the handshape of the sign coincides with the first letter of the English word which translates the sign. Many, but not all, color signs are initialized signs, for example, BLUE, PINK, YELLOW. Many name signs are also initialized, as well as other lexical items ranging from verbs, like TRY, to family terms, like UNCLE.

We found several examples of children fingerspelling color words: B-L-U-K-E for "blue," P-I-K for "pink," and Y-P-E-W for "yellow." But what is also notable is how they attempted to extend initialization to signs that are not in this morphological category. In one example, a Deaf child aged four years seven months fingerspelled Y-O-B[6] in response to a picture of an airplane, and began to fingerspell S- for a picture of a racket. The use of Y and S as the initial fingerspelled handshapes repeats the handshapes of the signs AIRPLANE and RACKET, respectively. Ramsey (personal communication) reports from her field notes of children writing in class an example of a child writing *n* as the first letter of "bacon" and insisting that because the sign uses the handshape N, the written word likewise begins with that

[6] It is not clear why the child chose the sequence O-B for the remainder of the word. From observing deaf children trying to spell words, it often seems that they choose from a repertoire of favorite letters, or try to select letters that resemble in some remote way their recollection of the spelling of the word.

letter. Later, Deaf children understand that not all signs fall in this category and not all signs can be linked to the first letter of their English translation. But crucially, in order to discover the relationship between fingerspelled handshapes and English, the child must also learn morphological properties of ASL signs.

At about the time that deaf children realize that there are links between ASL and fingerspelling, they also realize that there are rules to the selection of letters and their order in fingerspelled words, and specifically that fingerspelling is linked to English vocabulary. Deaf children who once enjoyed games of pretend fingerspelling often refuse to invent spelling any longer because they now understand that fingerspelling is linked to a system they do not know enough about (Padden 1991).

Our description of early use of fingerspelling by young Deaf children indicates that fingerspelling exists in an interactive relationship with other language systems, notably ASL as well as English reading and writing. Knowing the alphabetic basis of fingerspelling does not appear to be essential for its acquisition. In fact, many Deaf children make the alphabetic discovery later. When they do make the discovery, they still need to discover which sets of language items can be analyzed in this particular way. The acquisition of fingerspelling does not take place without also learning morphological properties of ASL.

The Acquisition of Written Spelling

The English orthographic system is commonly described as derived from and dependent on the sound system of the spoken language it represents (Venezky, 1970). I have argued elsewhere (Padden, 1993) that this description, while useful, overlooks features of English orthography that are strongly positional-graphemic. For example, the two-letter sequence *ph* is commonly understood as an archaic representation of the phoneme [f]. But this is only true in positional terms. If this same sequence appears straddling two syllables, as in "haphazard," it is not interpreted as a cluster representing one phoneme, but as two separate consonants, [p] and [h]. To use another example, the alternation between short and long vowels in medial position (e.g., "shin" vs. "shine" and "ban" vs. "bane") is signaled by *e* in final position.

Badecker (1988) has proposed that English orthography is accessible by visual means as well as phonemic, and that it can be analyzed as a system involving interaction of two levels – the first of identity, or the selection of alphabetic characters, and the second of position, where the character is

located in the word. Orthographic regularities appear at one or the other levels, for example, in the case of doubled letters. In terms of position, except for rare words such as "llama" or "Lloyd," doubled consonants cannot appear in initial position in a word, although some vowels can, as in "ooze" and "aardvark." In terms of identity, some consonants cannot be doubled, e.g., *hh*, or *jj*, while others can, e.g., *tt*. Similar analyses can be made of consonant clusters, i.e., which digrams of consonants can appear in which positions (e.g., *qe* is not a possible combination and *qu* cannot appear in final position).

This multilevel approach allows an analysis that is not solely sequential, an analysis of orthography not solely as a sequence of letters from the first letter of the word to the last, but also as made up of featural characteristics such as positions of doubled letters and consonant clusters. Featural characteristics reveal orthographic rules to be not simply "visual," but based on units larger than the individual letter – rules relating to initial, medial, and final positions. As it turns out, this approach offers an ideal way to analyze early spelling attempts of young Deaf children.

Early Written Spelling in Young Deaf Children

Some have posited that the correct course of acquisition of English orthography in young hearing children is first to analyze the orthography in terms of sound–symbol correspondences, and then later to acquire the special non-phonemic conventions of the system, e.g., that there are spelling regularities across morphological alternations, as in "electric" and "electricity" (Read, 1975; Barron, 1980). The argument is based on the claim that young hearing children need first to establish a correspondence between spoken units and orthographic units. After this connection is successfully made, then the child can learn other kinds of regularities, including morphological regularities that depend more on grammatical knowledge of English. The suggestion is that the system is primarily sound-based, with other regularities derived from, or secondary to, sound.

In a study of spontaneously produced written words in a group of forty young Deaf children ranging in age from four years to ten years old (Padden, 1991),[7] I have found evidence of early use of spelling in which the analysis of English orthography was not by phonemic means, but by

[7] Younger children were asked to write all the words they knew in a familiar set, e.g., colors, animals, foods, sports. Some children were prompted with signs for familiar objects, e.g., house, car, tree. Older children were asked to write a paragraph or a short story.

learning positional-graphemic rules. The spelling attempts did not resemble the well-known invented spelling reported by Read (1975) and others (Bissex, 1980; Clay, 1975; Wilde, 1987); indeed, they looked almost disordered. Some of the attempts bore little resemblance to the target words except for certain salient letters. For example, compare the following attempts with targets:

Attempt	Target
hosue	house
bota	boat
umber	umbrella
giffe	giraffe
mokley	monkey
cheale	chair

The attempts involved transpositions of medial letters, as in "hosue," deletions of not only letters but entire syllables, as in "giffe," and substitutions of letters, as in "mokley" (*l* for *n*, with a transposition). The attempts resulted in words that did not "pronounce" similarly to the target words, but what was striking about these attempts was how well they adhered to other types of regularities, notably positional rules. Take for example attempts involving doubled letters:

Attempt	Target
alppe	apple
umbllea	umbrella
ganne	green
frzze	freeze
terre	three
genny	green
gerrn	green

The attempts can be analyzed at two levels, either at the level of letter identity or letter position. In "alppe," the child switched letter position, but retained letter identity, that is, *p* is correctly doubled, but it is after *l* instead of before it. In "ganne," the switch is not in position but identity. The doubled sequence is in the correct, medial position, but the letter *n* is doubled rather than *e;* likewise with "frzze."

Overall, the children's spelling attempts were faithful to the first letter of the word an average of 86% of all attempts in four-year-olds, 95% in six-year-olds, and 100% in eight-to-ten-year-olds. In addition, their attempts

were often nearly equal in length to target words, even if letters were transposed or substituted. In older children, transpositions and substitutions occurred more often than deletions, as their awareness of preserving word shape increased.

It may seem that deaf children's spelling attempts are reminiscent of typing errors (Rumelhart & Norman, 1981), in which letters are also transposed, deleted, or substituted. There is at least one important difference between typing errors and the invented spelling of deaf children: In typing, it is possible to create impossible consonant clusters or impossible doubling sequences, but in invented spelling, deaf children are careful to avoid orthographically impossible sequences. While both activities involve print, clearly the cognitive demands are different. In typing, the issue is often speed, creating conditions for confusion at the motor level. In invented spelling, the children write each letter and errors are based on how they believe the word is spelled.

Because the children in this study were mostly four-, five-, and six-year-olds, the spelling attempts showed more of the children's awareness of orthographic structure and less of their awareness of morphological regularities as represented in written form. The next step in a study of written spelling in young children is to follow older children as they begin to spell longer and more morphologically complex words.

Between Fingerspelling and Writing

As deaf children discover the alphabetic principle of fingerspelling, they begin to explore connections between fingerspelling and writing. While trying to write, one child, at age four years eight months, invented iconic representations of the letters *p* and *k* based on features of their fingerspelled handshapes (Padden, 1991). She knew the letters of the alphabet, but appeared to want to represent fingerspelled handshapes on the written page. She used stick marks, one for each extended finger, for the P and K handshapes.

Older children are faced with a different problem. They understand the one-to-one relationship of handshapes and characters, but they need to discover how to watch a fingerspelled sequence and then write the word down. Some children insist on being shown a word one letter at a time. As each letter is fingerspelled, the child looks down to the page and records its written representation. Some children can watch segments of words, but the skill of watching an entire word and then writing it down comes later, when they understand better the orthographic properties of written

words. In an example we observed recently, we saw a child, age nine years seven months, ask a teacher how to spell "rubber." The teacher fingerspelled the word quickly, R-U-B-B-E-R. The child copied the word as *r-u-b-b-e* and began to write the word. The teacher waved at the child, and gave one letter, R. The child nodded and wrote down "rubber." This is not a trivial accomplishment. The child understood that the letter R was intended to be the last letter of the word, but the teacher made no explicit reference to this. This is a skill some deaf children struggle to obtain, to be able to appropriate fingerspelled words in whole form and represent them in writing.

Fingerspelling continues to mediate writing throughout the elementary years. In the case of initialized signs, we have often seen children quickly writing down the first letter of the sign and then waiting as they tried to construct the remaining letters of the word. Many children fingerspell a word first before writing it, as though to study the word first-hand, or they may revert to fingerspelling the word if they are struggling to write it. In our observations of children writing extended prose, we have often seen them interrupt writing to fingerspell a word to themselves.

As one might expect, the classroom is an ideal place for studying active connections between ASL and English systems, as the children confront English texts more regularly and more urgently. We hope to describe these examples in more detail as part of a larger study in how young Deaf children use and move between different languages and systems.

Moving Between Languages and Systems

This work suggests that the language lives of Deaf children and adults need to be considered in terms of how ASL and systems of English coexist. I have described here the parallel existence of ASL signing, fingerspelling, and early writing. I argue that what is most significant about young Deaf children's early use of fingerspelling and written spelling is not only the uniqueness of the tokens they produce and how they match up (or do not match up) to English, but how the children actively seek to form correspondences between these systems and other categories of symbols, notably ASL. In our new work, we have noted that as English figures more prominently and powerfully in the lives of young deaf children, the children begin to experiment with moving between languages and systems, which include but are not limited to fingerspelling and written English. We have seen much use of the systems of mouthing, forms of speaking, and the much-used but little-understood activity of "Sign English" or

contact signing. We have found it useful to inquire about how children learn the properties of these systems within activities involving the learning of reading and writing skills (see also Ramsey, 1993).

Analysis of the tokens themselves reveals that Deaf children attach different types of signification to fingerspelling and writing. In the case of fingerspelling, the younger children showed that it was possible to use the system without understanding its alphabetic principle, suggesting that the system may have properties unrelated to print. In the case of early spelling, the children produced spelling attempts which reflected positional and graphemic regularities in English orthography, not its phonemic-graphemic associations. Their persistence in discovering these principles indicates to us that this approach is a useful and productive strategy for learning about English words, as different as it is from the more widely described early spelling attempts of hearing children. This work suggests that deaf children take a different route to acquiring command of English, one by way of systems that have no parallel in hearing American children's acquisition of English. Before we can ask whether the different routes are fruitful ones, we have to understand what these routes are. Then we can ask how these routes influence their subsequent command of English.

When questions are raised about deaf children's competence in a language or languages, the competence is often thought about in abstract terms. But it may be useful in the case of deaf children to understand their competence in language in terms of the unusual ways in which they acquire the language. Deaf children seem to acquire competence in English via the routes of fingerspelling, writing, even signing, mouthing, and speech. These different routes may well shape the nature of their competence in English.

Ultimately, the key to understanding bilingual acquisition in Deaf children is to track their manipulation of these different systems through their early years, and the ways in which they call upon the systems in different contexts. If we can watch acts of correspondence, of fingerspelling while writing or signing while writing, it is our hope we will be able to observe how Deaf children manage to learn English.

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CHAPTER SEVEN

Communication Experiences of Deaf People: An Ethnographic Account

SUSAN B. FOSTER

Introduction

As Grosjean (1982) has pointed out, definitions of individuals who are called "bilingual" range from minimal to nativelike control of two or more languages, and everything in between. Certainly this range of definitions can be applied to deaf people who use American Sign Language (ASL) and English. Deaf people may demonstrate high proficiency in both ASL and English, or they may have greater skill in one language (ASL or English). There are also deaf people who, for a variety of reasons, have never developed high levels of proficiency in either ASL or English.

Barriers to communication between deaf and hearing people often are associated with differences in language – for example, when the deaf person is using sign language and the hearing person is using English. However, deaf people who demonstrate high levels of competence in English grammar, syntax, and vocabulary may still experience difficulties in the mode most often used by hearing people for informal and spontaneous communication – the mode of speaking and listening. Even with

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