

# Sociocultural perspectives of deaf parents on child-directed fingerspelling (birth–5)

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## Abstract

Child-directed fingerspelling is an approach used by Deaf parents for communication, language, and literacy development. This study reports on findings from a qualitative intrinsic case study aimed at understanding how Deaf parents use fingerspelling with their young children. The research questions were: (1) What are the cultural beliefs of Deaf parents regarding fingerspelling with young children? (2) What are their patterns of use of child-directed fingerspelling in natural settings? Twenty-one Deaf families with 27 deaf children ages 5 years and under were interviewed via recorded Zoom meetings conducted in American Sign Language. Data were analyzed using grounded theory to develop a new theoretical contribution with the core category: Deaf families socialize their children into Deaf visual-linguistic norms through fingerspelling. This new theoretical insight aligns with Holcomb's Deaf epistemological framework (2010) and Ochs and Schieffelin's (2008, 2011) language socialization theory. Limitations and recommendations for future research are also included.

## Content conceptual frameworks: deaf epistemology and language socialization theory

Our study data interpretation was based on the conceptual frameworks of Deaf epistemology (Holcomb, 2010), built on Deaf-centric knowledge and practices used and passed down within Deaf families. Early childhood practices in Deaf epistemology include how Deaf children are socialized from birth to attend to visual cues, space, movement, and communication, using fingerspelling, American Sign Language (ASL), and English to help them thrive and develop a bilingual bicultural identity (Hauser et al., 2010; Holcomb, 2010; Paul & Moores, 2010). Paul and Moores (2012) posit that there are many ways to be deaf as they explored how ten scholars examine various deaf epistemologies, illustrating different ways Deaf people perceive and acquire knowledge.

The second framework, the language socialization theory (Ochs & Schieffelin, 2008, 2011), is rooted in anthropology and posits that language is a fundamental medium in the child's development of social and cultural knowledge. Comprising five tenets, it describes how socially and culturally informed adults transfer their cultural practices to children through daily routines and imitation (Tenets 1 and 2). Such interactional patterns are structured by cultural norms (Tenet 3), and brought about by cultural tools such as language (Tenet 4).

...at birth...every night at bedtime, I would fingerspell the letters ABCs without a book. I thought it was a good way to calm my son in a bedtime routine...I started to notice at about three months that he made the F handshape back and started twirling it around in the air. He did not seem to know what it meant but he kept looking at his hand and fingers as he kept wiggling his fingers. He began fingerspelling his ABC when he was about 1 1/2 years of age...now at age 3 he fingerspells so fast. I have to tell him to stop and slow down for me to understand (laughing) and he is only 3!

This statement underscores the value this Deaf<sup>1</sup> mother places on using visual fingerspelling as a nighttime, calming lullaby routine to soothe her infant son to sleep. This mother's statement introduces our study that explored Deaf parents' beliefs and use of fingerspelling with their young deaf children, ages birth to 5. We coined the phrase "child-directed fingerspelling" to capture how Deaf parents use early fingerspelling during expressive communication. Child-directed fingerspelling is similar to child-directed signing, which linguists have described as a linguistic register aligned with cultural practices of the Deaf community (see Pizer et al., 2011).

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Accordingly, these cultural and linguistic tools contribute to children's capacity to use language socially. Later, they become fluent communicators and adept members of communities (Tenet 5). These content frameworks support data analysis as we seek to discover a new theory to account for Deaf parents' child-directed fingerspelling.

## Review of the literature

### Definitions and models of fingerspelling

Fingerspelling systems exist in sign languages worldwide. In the United States, Canada, and other countries around the world, the fingerspelling system uses the one-handed alphabet—a set of 26 handshapes that early educators and linguists believed to be a manual representation of English orthography (Gallaudet & Gordon, 1892; Moores, 2001; Stokoe, 1960). Stokoe (1960) viewed fingerspelling and signed language as having “structural differences making it possible to separate the two” (p. 33) and defined the manual alphabet as “a communication activity involving perception of or presentation of successive hand configurations representing the letters (and ampersand) of English orthography” (p. 69).

Blasdel & Clymer (1978) developed models of fingerspelling based on psycholinguistic processing theories and conducted a study to determine which of the three models was most effective. They found that the Cipher Model, which connects individual handshapes to orthographic letters sequentially (i.e., one-to-one correspondence), was more valid. Over the next decade, as the study of ASL advanced, other studies on fingerspelling were conducted. These key studies anticipated later linguistic research on how deaf children and adults use handshape configurations, movements, and orientations when fingerspelling, offering a more current view that fingerspelling is part of the phonological system (see review by Keane & Brentari, 2016).

The studies that led to the more contemporary perspective began with Battison (1978), a linguist who proposed that fingerspelling is a discourse feature of ASL, resulting from English's influence on ASL. He observed Deaf adults fingerspelling in conversations and found that they fingerspelled English words that resembled ASL signs through a process he called lexical borrowing. This means that words from one language are “borrowed” or “loaned” and then incorporated into another language, which restructures the “new word” into a more native-like word. Therefore, a loan sign may be a term borrowed from English during which fingerspelling is lexicalized to form a sign (e.g., #BUS) or a loan sign may be borrowed from another signed language that is adopted into ASL, such as Taiwanese Sign Language (TSL)'s sign for TAIWAN (Liu et al., 2014).

Wilcox (1992) identified further weaknesses in existing fingerspelling theoretical models. According to Wilcox, models that characterize fingerspelling as a sequential arrangement of static handshapes corresponding to English letters are demonstrably inadequate to explain how people produce and perceive fingerspelling. While conducting a study analyzing spontaneous conversations in ASL among Deaf adults, Wilcox discovered that fingerspelling is not static, with letters produced in a sequence, but is fluid, context-based, and uses gesture, timing, rhythm, and prosody. He hypothesized that fingerspelling is not only composed of holds (handshapes and orientations), but also of signaling transitions. He referred to this model as the Dynamic Model (Wilcox, 1992).

As fingerspelling research expanded into other fields of inquiry, Lucas and Valli (1992), two sociolinguists, investigated the outcomes

of language contact between a signed language and the orthographic system used to represent spoken language. They concluded that during “full fingerspelling” or lexical fingerspelling, the segmental structure is changed, handshape assimilation occurs, location and orientation are changed, and movement is added following the linguistic constraints of the morphemic structure of ASL.

To summarize, early studies described fingerspelling as a set of handshapes representing the orthography of a spoken language (e.g., English) with the handshapes representing and spelling out each written letter of the Latin alphabet from A to Z. As the later models demonstrate, fingerspelling is not just a set of separate handshapes corresponding to alphabetic letters. Research by Stokoe (1960), Battison (1978), Padden (1991), and Brentai & Padden (2001) have shown, fingerspelling is a discourse feature of conversations in ASL, a result of language contact (Blumenthal-Kelly, 1995; Lucas & Valli, 1992; Padden, 1991), and a dynamic, integral part of ASL (Wilcox, 1992). See Figure 1.

### How deaf signers use fingerspelling

Deaf signers frequently use fingerspelling in their daily conversations, switching between signs and fingerspelling (Mulrooney, 2002). Fingerspelling accounts for 12% to 35% of their signed conversation, depending on the topic and people present (Padden & Gunsauls, 2003). Moreover, according to (Sandler & Lillo-Martin, 2006; Stokoe, 1960/2005; Valli et al., 2011), ASL uses approximately 45 core handshapes, sharing 26 of these with the fingerspelling or manual alphabet... (Davis, 1989 as cited in VanManen, 2018). Linguists and educators categorize fingerspelling based on how it is performed (Battison, 1978; Hile, 2017; MacLaughlin, 2018; Padden, 2006; Wilcox, 1992). One category, neutral fingerspelling, refers to its use for personal names, proper nouns, and brand names (Padden, 2006). As Battison (1978) discovered, lexicalized fingerspelling combines handshapes into a single sign, like #DOG or #BUS. ASL signers use lexicalized fingerspelling across all word categories (e.g., nouns, verbs, adjectives, conjunctions, injections, and wh-words) (Blumenthal-Kelly, 1995; Hile, 2017; Padden, 1991), and for abbreviations such as #APT for apartment. A third category, two-word compounds, involves two handshapes representing the first letters of English words (e.g., PO for post office). Another category, initialized signs, uses a handshape that corresponds to the first letter of a word, like the sign for FAMILY, which uses the F handshape. Colors and days of the week are also examples of initialized signs (Padden, 1998, 2006). Signed-fingerspelled compounds form a fifth category, where the first part of a compound is signed and the second is fingerspelled, such as WATER+F-A-L-L and POTATO+C-H-I-P (Brentari & Padden, 2001). These five categories enhance our understanding of the various ways the Deaf adult community employs fingerspelling in their ASL discourse.

### How deaf parents use fingerspelling

A subset of the Deaf community—Deaf parents—has been understudied, largely due to a longstanding misconception among researchers that early fingerspelled words are English rather than a component of Deaf children's acquisition of ASL (see Padden, 1991, 1998, 2006; Padden & LeMaster, 1985; Padden & Hanson, 2000). Nevertheless, the small number of seminal studies conducted over the past three decades provide an important foundation for understanding fingerspelling acquisition in young children.

Akamatsu (1982) observed children producing spontaneous utterances with handshape configurations and movements, not letter by



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<https://deafchildren.org/wp-content/uploads/2024/09/Alphabet-chart-FULL-page.pdf>

**Figure 1** Fingerspelling alphabet of 26 handshapes used in the U.S., Canada, and other countries throughout the world.

letter but rapidly spelling whole words. Positing a Movement Envelope, Akamatsu concluded that fingerspelling is not simply a string of handshapes representing letters; instead, it encloses the space in which the word is fingerspelled as well as creates word shapes and patterns. Furthering this concept, Padden and Le Master (1985) proposed that children learn to fingerspell in two distinct stages: During the first stage, children treat fingerspelled words as whole units or signs. During the second stage, they understand that fingerspelled handshapes map onto the individual letters in a printed English word. Other studies conducted by Padden (2006, p. 195) reported, “fingerspelling is frequent and persuasive in signed discourse, and a young signer cannot avoid learning fingerspelled forms used by parents or others in the signing environment.”

### Child-directed fingerspelling during routines and play

Studies of child-directed fingerspelling are unique in that they typically involve highly educated, culturally Deaf parents who make critical observations and important insights about early ASL and English bilingualism for their deaf children (Erting et al., 2000; Maestas y Moores, 1980; MacGlaughlin, 2018; Padden, 1991; Padden & LeMasters, 1985). We highlight key insights from existing studies regarding Deaf parental use of fingerspelling and use the term bilingualism to refer to acquiring ASL and English (Andrews & Nover, 2025).

Maestas y Moores (1980) reported on a parent-infant interaction study of four infants who were video-recorded with their mothers during feeding, bathing, and play in their first, second, or third month. Fingerspelling was studied alongside other multimodal communication strategies, including speaking and signing, across diverse languages: ASL, English, and Spanish. Deaf parents presented fingerspelling to their babies as young as 25 days old to present words such as the child’s first name, food items, or labels such as USA. At 3 months,

one mother fingerspelled words: verbs, articles, and prepositions as well as proper nouns (e.g., W-A-S, A-N, D-I-D, O-F, S-O, B-E-R-L-I-N, K-N-O-C-K-W-U-R-S-T). Another mother fingerspelled the word S-T-R-A-W-B-E-R-R-Y to her 3-month-old. Fingerspelling was not the only strategy used, but was used in conjunction with other child-directed nursery activities.

Padden and LeMasters (1985) documented observations of six deaf children aged 2:3 to 7:11 months. They reported that even though the children were exposed to fingerspelling at an early age, parents did not fingerspell to their children as frequently as they did to other adults. Another finding of this study was that Deaf parents used name signs when introducing someone to younger children rather than fingerspelling the full name. As children got older, they followed the culturally accepted convention of fingerspelling the full name, albeit more slowly, then providing the name sign. Fingerspelling use varied among participants. Some parents reported that they began explicitly teaching fingerspelling when their children were 2 to 3 years old, and taught the names of objects and common English phrases, as they believed that fingerspelling aids in developing English writing skills. Only one mother in the study exposed her child to fingerspelling during an instructional episode, younger than age 2. Other parents reported that they did not provide fingerspelling instruction and allowed the children to develop fingerspelling skills independently. Based on their data, Padden and LeMasters (1985) concluded that fingerspelling is used with young deaf children, and by the time a child is 4, they have acquired a basic understanding of signing and fingerspelling, and the points at which they converge.

Padden (1991) studied Deaf parents of six deaf children ages 2:1 to 8:5. Video recordings of interviews were conducted, and field notes were collected during play sessions involving spelling, writing, and signing within a 30-to-60-min timeframe. In this study, all parents were college-educated and native ASL signers (one parent was hearing but a native signer). All parents reported they thought

fingerspelling was “an ideal way of representing English to their children . . .” (pp. 193–194). Parents encouraged print-fingerspelling association when their child was at least 2 years old when playing with artifacts such as plastic letters and spelling their names and those of their siblings (about 3 years of age). However, even at age 3, parents noted that their deaf child was still unsure of the association between print and fingerspelling.

Blumenthal-Kelly (1995) observed a young deaf child from 5 weeks (infancy) to 4 years old (toddler). Deaf parents reported they exposed their child to fingerspelling “immediately after her birth” (1995, p. 70), emphasizing “that parents incorporate fingerspelling in their daily discourse with their deaf infants as early as possible” (1995, p. 71). At 21 weeks, the Deaf father began chaining signs with lexical fingerspelling, telling her to RELAX + #R-E-L-A-X (p. 68), and at 34 weeks, the child’s parents began chaining signs with fingerspelling using objects around the house. As the child grew older, the parents increased their fingerspelling. They promoted fingerspelling by identifying individual letters on blocks, pointing out the first letter of a family member’s name on the corresponding block with the appropriate fingerspelled handshape. At age 3, the family devised another instructional game where the mother wrote nouns and proper names of family members on index cards in capital letters. She flashed the cards to the child, encouraging her to imitate the letters with the fingerspelled handshape. Reading books was another home activity and involved parents pointing to the print and making the sign or fingerspelling the word, drawing the child’s attention to the meaning of the print.

Erting et al. (2000) expanded on Blumenthal-Kelly’s (1995) work by studying the nature and timing of a deaf child’s exposure to fingerspelling. They reviewed videotaped sessions of a family with a deaf infant at 3, 6, 9, 12, and 18 months. Additionally, they videotaped other infants from birth to 4:3 and birth to 2:10. Their analysis showed that fingerspelling appeared in signed discourse early, when children were only a few weeks old, but it did not play a major role in their earliest communication. Exposure to fingerspelling increased as children became toddlers. Another finding was that it was not until the third year that books became part of parental interactions involving fingerspelling with explicit attention to letters and words.

Padden (2006) summarizes studies of fingerspelling in ASL with Deaf parents and concludes that deaf children as young as 13 months can acquire fingerspelling. Deaf children acquire fingerspelling by first recognizing the fingerspelled words as whole units. Then, as storybook reading and writing become more common in the child’s life, they understand that fingerspelled words consist of hand shapes that correspond to alphabet letters. According to Padden, fingerspelled words, initialized signs, abbreviations, and sign-fingerspelled compounds—all “form a robust and active component of the [ASL] lexicon” (p. 200).

### Child-directed fingerspelling and emergent literacy

Child-directed fingerspelling has been linked to the teaching of reading and other literacy skills. Akamatsu and Andrews (1993) studied a deaf child from age 2 to 5 and concluded that Deaf adults introduce their deaf children to bilingual language practices, including emergent literacy skills through fingerspelling. Herbold (2008) also investigated early literacy and reported that Deaf parents exposed deaf children to ASL since birth, but did not mention when parents exposed their

children to fingerspelling. However, she noted that most deaf children could fingerspell their first name and the names of family members by age 3. The parents reported using fingerspelling when sharing storybooks by signing the content to their children. Valuing its importance, one family displayed artifacts of the fingerspelled alphabet, such as an ABC poster of manual handshapes over the child’s bed. Berke (2013) investigated the use of fingerspelling by ten Deaf mothers and their preschool-aged deaf children, ages 3 to 5, during a shared reading activity. Berke found that the mothers spell the characters in storybooks and use chaining with signs, print, and fingerspelling. Another fingerspelling strategy was ASL translation for a word, thus demonstrating an ASL/English bilingual strategy via fingerspelling. Finally, MacGlaughlin (2018) studied three Deaf families with three deaf children ages 5 and 6 and reported that Deaf parents used fingerspelling with their young Deaf children during communication, storybook reading, and a free writing activity.

### Identifying gaps in the literature

As outlined above, linguists have defined and developed models of fingerspelling as part of ASL discourse. Studies have also shown how adult Deaf signers use fingerspelling in their daily communication. Moreover, multiple case studies document how Deaf parents and families use fingerspelling to teach their child to communicate and learn to read using psycholinguistic and emergent literacy frameworks.

What is missing in the literature, however, are studies that focus on how Deaf parents socialize their children into Deaf visual-linguistic norms through fingerspelling. To strengthen our contribution to the literature, this study fills this void by exploring how Deaf parents function as the child’s first visual language models as they socialize their child into Deaf culture through daily exposure to handshapes, signs, and fingerspelling as a cultural practice. Such a sociocultural framing of early child-directed fingerspelling has the potential of providing new theoretical insights.

Based on these gaps, the following research questions were formulated.

- 1) What are the cultural beliefs of Deaf parents regarding fingerspelling use with young children?
- 2) What are the patterns of use of child-directed fingerspelling used by Deaf parents within natural environments?

## Methodology

### Participants

A convenience sample of Deaf parents with young deaf children was obtained across the U.S. and Canada. Participants were recruited via a flier distributed via email, posted on social media, and shared by word of mouth. A video explaining the study in ASL was linked to the flier (informed consent), and a QR code was linked to a registration form. The study was approved by the Texas Woman’s University Institutional Review Board, where one of the researchers was employed. Before beginning the study, an informed consent form was distributed to the registrants, which included the ASL video. Criteria included the following: (1) at least one Deaf parent, (2) use of ASL as the primary language of the home, (3) the use of fingerspelling, and (4) have deaf children 5 years old and under in the home.



**Table 1** Deaf families background characteristics.

| #  | Coding system | State of residency   | Race or ethnicity | Highest degree | Children's ages | Children's gender    |
|----|---------------|----------------------|-------------------|----------------|-----------------|----------------------|
| 1  | A             | Colorado             | White             | Masters        | 1 year          | Female               |
| 2  | B             | Texas                | White             | BA/BS          | 2 years         | Female               |
| 3  | C             | Indiana              | White             | Masters        | *4 years        | Female               |
|    |               |                      |                   |                | *5 years        | Male                 |
|    |               |                      |                   |                | 3 years         | Female               |
| 4  | D             | Texas                | White             | Masters        | 3 years         | Male                 |
| 5  | E             | Massachusetts        | White             | Masters        | 2 years         | Prefer not to answer |
| 6  | F             | Connecticut          | White             | Masters        | 14 months       | Male                 |
| 7  | G             | Maryland             | White             | BA/BS          | 3 years         | Male                 |
|    |               |                      |                   |                | 4 years         | Male                 |
|    |               |                      |                   |                | 4 years         | Male                 |
| 8  | H             | California           | White             | BA/BS          | 4 years         | Male                 |
| 9  | I             | Iowa                 | White             | Masters        | 4 years         | Male                 |
| 10 | J             | Maryland             | White             | Masters        | *5 years        | Female               |
| 11 | K             | Texas                | Hispanic          | Masters        | 2 years         | Male                 |
| 12 | L             | Texas                | White             | BA/BS          | 5 years         | Female               |
| 13 | M             | Texas                | White             | Masters +      | 5 years         | Female               |
| 14 | N             | Texas                | White             | BA/BS          | 4 years         | Female               |
| 15 | O             | Texas                | White             | Masters        | 4 years         | Female               |
|    |               |                      |                   |                | 3 years         | Male                 |
|    |               |                      |                   |                | 2 years         | Female               |
| 16 | P             | District of Columbia | White             | Near PhD       | 4 years         | Female               |
| 17 | Q             | Texas                | White             | AA +           | 11 months       | Male                 |
| 18 | R             | Pennsylvania         | White             | 2 Masters      | 5 years         | Male                 |
| 19 | S             | Delaware             | White             | Masters +      | 3 years         | Female               |
| 20 | T             | California           | White             | Doctorate      | 2 years         | Female               |
| 21 | U             | Pennsylvania         | White             | BA/BS          | 4 years         | Male                 |

*Note:* \* Additional disability reported by parent

### Deaf family background characteristics

Twenty-one Deaf families (18 mothers, two fathers, and one mother-father pair) who met the criteria registered and completed the necessary consent forms to participate in the study. See [Table 1](#) for information on participants' geographic location, race or ethnicity, education, and child/ren's ages at the beginning of the study. Most family members who are currently employed work in deaf education as teachers, school administrators, or in related fields such as teaching ASL. All Deaf parents except one reported their fingerspelling ability as expert or proficient; the exception was a parent who immigrated to the U.S. at age 12. Participating families received a small honorarium (see background characteristics in [Table 1](#)).

## Methodology

This study utilized an intrinsic case study to provide an in-depth, multi-faceted understanding of a phenomenon in its natural context (Crowe et al., 2011; Enns, 2017). The intrinsic case study does not aim to generalize its findings to a broader population; instead, it explores a specific phenomenon: the patterns of child-directed fingerspelling behaviors. According to (Creswell & Poth, 2016; Stake, 1995: p. 99), it “resembles the focus of narrative research, but the case study analyzes procedures of a detailed description of the case, set within its context or surrounding . . .” with the context for this study, the natural environments at home or during play.

## Procedures and data collection

A Deaf-hearing, bilingual collaborative research team conducted interviews via Zoom. The open-ended questions were asked and recorded after an initial, informal warm-up introduction and explanation of the project's goals. Each interview took approximately 30 to 45 min. Data were maintained in a secure, password-protected online file with access limited to the research team members (see [Appendix A](#) for the interview questions).

## Co-authors positionality statement

All five co-authors have worked as educators of deaf students in ASL/English bilingual programs. Four of the co-authors hold doctorates and were employed as professors in deaf education teacher preparation programs. The lead author is the parent of a Deaf adult. One co-author is Deaf and employed at a school for the deaf as an ASL interventionist. A hearing CODA and Deaf team conducted the interviews and translated the videos into narrative text. Both have deaf children. Two hearing researchers make up the remainder of the research team.

## Data analytic plan

## Grounded theory

Grounded theory is an inductive research approach that analyzes the data from the ground up rather than deductively from an already established theory (Cresswell & Poth, 2016; Easterbrooks, 2017).

Grounded theory typically does not begin with a position and then match the data to an established premise; instead, researchers allow the data to define the outcome. Charmaz (2024) explained that while grounded theory emphasizes inductive analysis, established theory can be used as a sensitizing framework that informs interpretation without predetermining analytic categories. In this study, the language socialization theory (Ochs & Schieffelin, 2008, 2011) and the Deaf epistemology framework (Hauser et al., 2010; Holcomb, 2010) were employed as frameworks for data analysis.

### Data analysis

After the interviews were completed and each was translated into a narrative form, a senior researcher reviewed the videos and summarized the findings in a chart. Two additional senior researchers independently reviewed the videos and added comments to the chart. The raw data were then coded following the process outlined by Corbin and Strauss (1990), using three coding types: open, axial, and core. Open coding identifies similarities and differences in responses to provide an overview of the data. Researchers then use constant comparison to examine parents' perspectives. During axial coding, they combine and categorize data into specific categories to establish conceptual linkages and explore responses. Finally, the codes are consolidated into a "core category" that represents a central phenomenon.

### Interrater reliability and validation strategies

Interrater reliability for the ASL-to-English transcriptions was achieved by having three researchers review the videos independently to verify the transcriptions. Next, they coded the data, shared findings, and reached 100% intercoder reliability. In addition, an independent ASL-fluent researcher reviewed 30% of the videos to assess transcription accuracy, achieving 95% agreement. After completing the translations, family's responses were emailed to them for member checking.

### Findings

The results of the grounded theory analysis are revealed in Figure 2. Seven open codes, three axial codes, and a core category emerged from the data set.

#### Open coding

The following open codes were identified during this initial stage of data analysis.

*Valuing fingerspelling.* Often overlapping with other codes, all parents reported that they valued fingerspelling as a critical component to their child's overall visual language development. A mother commented: "I began exposing my child to words at birth...the baby might not understand, but I still exposed her to fingerspelling and signing; fingerspelling is part of me from within...". A father made comments that were similar to the parents above and added some additional clarification to the discussion on the importance of fingerspelling when he noted the following:

.....  
There are various ways fingerspelling is important... it is related to academics, to general content, exposure to lexicalized fingerspelling (B-U-S, R-I-C-E), use it during book reading for articles (the) for pronouns (they). It is a part of ASL...I have

been signing to my child since birth... fingerspelling words from books... there are words that do not have ASL signs so it's good to expose children to fingerspelling... I increased chaining until it was a habit... so he would see and know the connection.

.....  
Parents have strong beliefs about the value of fingerspelling and contend that it is a part of a robust language system. Two parents explained, "It is our duty to expose our children to signs as well as fingerspelling." Several commented about how their university degrees specifically supported their belief in using fingerspelling with their young deaf children. One mother noted:

.....  
I have a degree in ASL education so this has influenced my belief on the importance of fingerspelling as it is a part of ASL. ASL will always be our primary language, but fingerspelling is a bridge to our secondary language (English).

.....  
Likewise, another mother, a teacher of deaf children, linked her university degree to her beliefs in early fingerspelling in the home. "Fingerspelling is the foundation to language that links with reading and writing. Not everything has signs, so I spell them out." Another mother explained that she had hearing parents; her university training helped her realize the importance of early fingerspelling. Two parents commented that they learned more about fingerspelling after enrolling their children in bilingual early childhood programs.

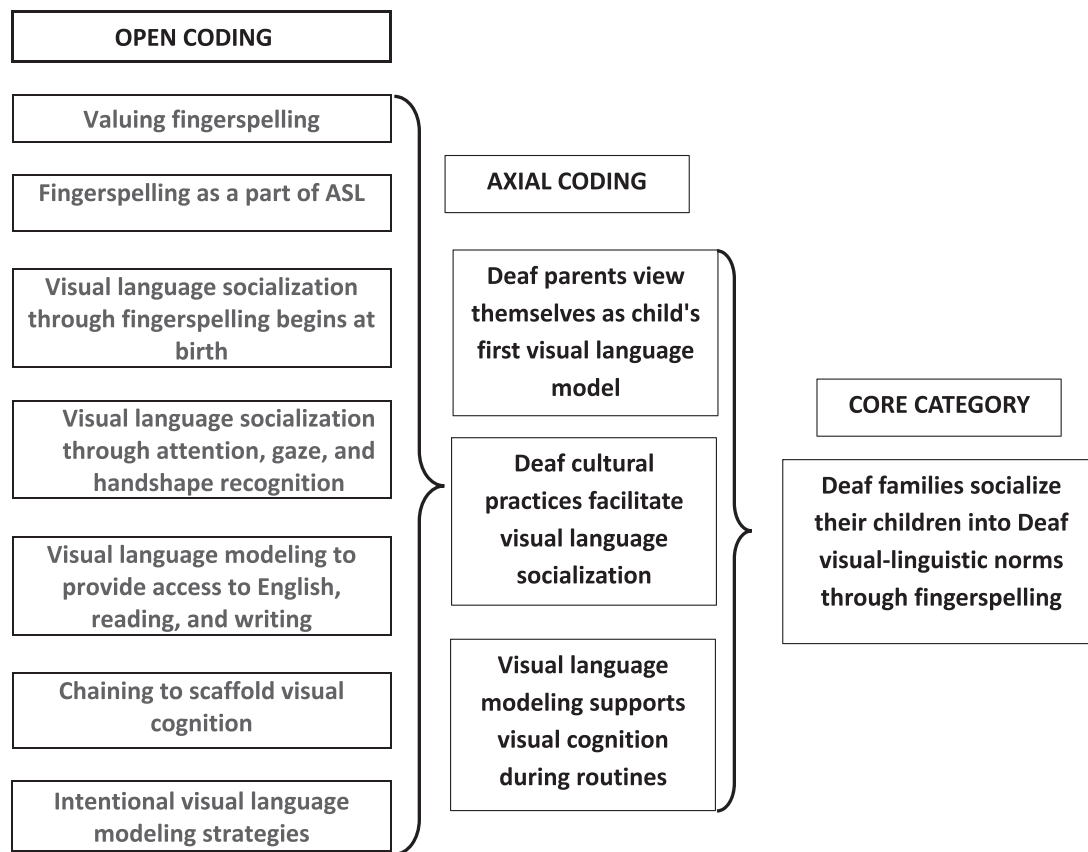
These findings reveal that even with a legacy of early fingerspelling passed down from generations, a university degree contributed to their belief about fingerspelling by reinforcing the importance of fingerspelling with very young children.

### Fingerspelling as a part of ASL

There was a unanimous consensus among all families that fingerspelling was vital for young children. Most parents commented that fingerspelling is a natural component of ASL, and several parents responded that fingerspelling promotes bilingualism; it exposes a child to English. One mother stated that without fingerspelling a child would not develop a fully functioning language system. Another mother shared that without fingerspelling a child would miss out. "Their language development would be compromised; it would be weak and create learning challenges." Another mother mentioned that fingerspelling supports the learning of ASL grammar. This finding supports linguistic studies that explicitly state that the manual fingerspelling system is a part of ASL.

### Visual language socialization through fingerspelling begins at birth

Seventeen out of 21 or 81% of parents reported that they started fingerspelling at birth. Two of the parents who did not fingerspell with their children at birth explained that they were immigrants and arrived in this country when they were older. One arrived when she was 12 years old; the other explained that she was born in Mexico and that fingerspelling is not widely used in that country. Two other parents reported they waited until their children were older (1 year, 2 years) before starting to fingerspell. The parents who reported fingerspelling later learned about the importance of early fingerspelling from their children's early childhood programs, something they were not aware of previously. Most parents reported that fingerspelling the child's name at birth was a natural thing to do.



**Figure 2** Results of grounded theory analysis.

Parents reported fingerspelling the infant's name and M-O-M, D-A-D then later other immediate family member's names and pet's names, thus bonding the child to the family unit. The mother–father pair reported the early use of chaining at birth with their two deaf infants (e.g., fingerspell M-O-M, sign MOM; fingerspell D-A-D, sign DAD). One mother explained “at birth first words [fingerspelled] were his name. Later on, when he was older, we added words like T-V, I-C-E, B-U-S, and other forms of lexicalized fingerspelling.” A father explained that he began fingerspelling with his child at birth. “The earliest words fingerspelled were the child's name then M-O-M, D-A-D, and brother's name. Afterward, we added more relatives' names, sometimes abbreviating their full names and adding a sign before the fingerspelled name. For example, we would sign UNCLE then fingerspell his initials.” Another father commented that he came from a large Deaf family and that fingerspelling use was pervasive. He began fingerspelling with his daughter at birth. Both fathers mentioned that they prefer fingerspelling to invented signs and stated that “fingerspelling helps build strong vocabulary skills.”

### *Visual language socialization through attention, gaze, and handshape recognition*

As reported, most Deaf parents do not postpone using fingerspelling, opting instead to begin using fingerspelling immediately at birth. Fingerspelling is perceived as a lexicalized sign in the eyes of young deaf children. In other words, they see fingerspelling as clustered into a sign-like movement; they do not recognize individual handshapes as letters of the alphabet. Mothers commented on the importance of being aware of a baby's visual attention and

readiness. Although vision is not yet fully developed at birth, parents reported fingerspelling to their infant. As the mother–father pair explained,

.....

When I held my baby, I would make eye contact and sign MOM, then fingerspell M-O-M. When I signed MOM, I would point to my body and then fingerspell her name and point to her body. Later on. As she grew older and her visual attention increased, we fingerspelled other words . . . D-O-G, C-A-R, T-R-U-C-K, B-O-O-K and wrote words on cards that we fingerspelled to her . . . also started asking questions like, “DO YOU WANT I-C-E?”

.....

Beyond the birth event, parents frequently commented on their child's emerging abilities to receptively understand fingerspelling, and this involved the parents' intuitively recognizing their child's visual readiness. As children's visual development increased, parents reported that they increased the word length from three to four letters and more when they thought the child was ready to attend longer. Similarly, another mother commented that “when her son would look at her for a longer length of time . . . she knew he was ready to learn” and shared that she used rhythm when fingerspelling names. Another mother used rhythm as well when teaching her child the ABCs. One mother shared an example of how she combines fingerspelling and signs. She explained that she would make signs for OWL, TREE then fingerspell them emphasizing the first letter like in OWL (parent places O handshape on child's eyes to mimic big eyes of an owl), then fingerspell W-L.

Although word length seemed to be controlled by parents, it was not always adhered to, as some parents reported fingerspelling longer words that were specific vocabulary without signs (e.g., RIGATONI, MANGO). One mother cautioned parents to avoid linguistic overprotection and recommended to “go ahead and fingerspell longer words. Eventually, your child will understand the meaning.” One mother stated, “I use a normal pace when fingerspelling, but when my child does not understand, I slow down the pace and fingerspell more slowly.” During an interview with one mother, a child came to view the Zoom screen. When the interviewer asked the child to fingerspell, the mother demonstrated how she supports the child’s fingerspelling by mirroring fingerspelling letter by letter, allowing the child to see the individual handshapes (see Figure 4).

Overall, parents reported that they are attuned to their children’s visual attention and eye gaze and reported that when their children were visually ready, they begin fingerspelling longer words and specific vocabulary that have no sign. Parents also reported fingerspelling using a normal pace, using chaining, which required longer episodes of visual attention, and rhythm to assist their children’s receptive skills.

### *Visual language modeling to provide access to English, reading, and writing*

Some families believed that fingerspelling replaces the auditory access to English. One mother commented, “Deaf people are better spellers because with fingerspelling; they do not rely on auditory cues. Fingerspelling helps deaf children connect letters with words”, and one mother commented that it is a replacement for phonics. A father explained, “it important for parents to expose children to signs as well as fingerspelling to make up for the loss of auditory input.” Another mother elaborated by saying, “fingerspelling is important because Deaf people use it all the time . . . it helps them make up for what they do not hear. It provides access to the English language and supports bilingual language development.”

When describing how they use fingerspelling when reading with their children, one mother stressed the early introduction of fingerspelling in board books.

I started to sign storybooks to him from birth, especially board books with a picture and a flap with the word underneath it. I would fingerspell the word . . . when he reads, he finger reads (run his finger under the words). Also, I made a book for him full of photos of all family members, his teacher, his classmates and wrote their names under the pictures so he could recognize them.

Several mothers noted the importance of fingerspelling for building vocabulary and for word recognition while reading books. One mother shared that her son recognizes words in captions on the TV and copies them. Another mother stated, “When my son sees a word he knows in a book, he gets excited. He taps me and signs I KNOW, I KNOW and then he fingerspells the word.” Several mothers noted fingerspelling’s importance for reading and writing. One mother commented, “Fingerspelling is the foundation of language that links reading and writing . . . not every word has a sign equivalent, so spell them.” One mother explained the relationship between fingerspelling and her child’s bilingual learning, recognizing it as an important part of her child’s learning ASL and English. All parents reported reading with their children. Book sharing was viewed as

important for pre-reading skill development, and parents reported beginning book sharing with their children at very young ages.

The parents frequently commented that they engaged their children in intentional fingerspelling activities, which occurred during natural conversations when parents drew the child’s attention to print in the environment or during book sharing, drawing, and writing activities, including print on a smartphone or computer. These fingerspelling activities occurred as early as 6 months in some families. One mother commented on similar early behaviors, “I fingerspell letters on books and labels at about 12 to 18 months.” All families reported that the use of intentional strategies increased in frequency as the children grew older.

### *Chaining to scaffold visual cognition*

The point at which parents begin chaining with their children was not clear even though all parents agreed that they used chaining once it was clearly defined. A mother shared, “I began chaining fingerspelling with signs when my child was 3 ½ when reading a book. I would first focus on individual letters, then the sign, then the fingerspelling. I would also fingerspell words after writing notes to my child.” Another parent shared that chaining was used exclusively when using visual aids such as flashcards as soon as the child could sit up and attend. While another parent used chaining during book sharing to link ASL and fingerspelling to objects, photos, and print. Parents of older children five years of age mentioned they used chaining strategies with their children’s joint writing and drawing activities. A mother explained:

I recommend that you start combining fingerspelling and signing at birth . . . now my five-year-old daughter loves writing more than drawing and will ask me to fingerspell names of family members and pets. She works on creating homemade birthday cards for her friends and asks me to fingerspell the names out and she writes the letters. This activity has been very worthwhile.

Another mother made similar comments about linking signs to fingerspelling and to print:

I combine fingerspelling with signs such as SUN and S-U-N. He likes to draw and I fingerspell words that he can add [to his drawings]. His favorite books are beginning word books. I would point to the words and fingerspell them. His coloring books have words too that I would fingerspell. At three years of age, he can read names of family like, mom, dad, (his brother’s name).

The mother/father pair expanded on their use of fingerspelling.

We read a book every week . . . she looks at pictures, but she is now looking at books with more print, much of which she doesn’t understand. When we read books to her, we sign so as not to interrupt the fun of the story, but after each page, we point to a word, like jump, and then fingerspell J-U-M-P. We follow the child’s lead; when she asks for the fingerspelling of a word, we fingerspell it.

A father commented on how he uses technology and incorporates fingerspelling when reading books with their child. He described the ways they have been exposing their two deaf children to fingerspelling, signing, and print since birth. “We fingerspell and sign words on the iPad. I fingerspell Y-O-U-T-U-B-E when looking for videos on the computer/iPad/iPhone . . . and fingerspell when reading stories.” In



addition, this father expanded on how he fingerspells key words and incorporates text messaging:

.....

I will fingerspell key words in the story such as the character's names, then give them a name sign so he will understand how to identify the characters in the story... I fingerspell sounds in storybooks like M-O-O or W-O-O-F... I text my son on the iPad and explain my message using fingerspelling... then ask him a question... who makes the W-O-O-F sound?... then I answer for him, giving him the sign, WOLF.

.....

Another mother explained how she uses technology and child-directed fingerspelling during book sharing: "I point to letters and words... on the family app where family members make comments, I fingerspell and sign to her."

### *Intentional visual language modeling strategies*

Home routines are spaces for language socialization. The parents in this study noted that during home routines such as bath time, mealtime, or family playtime, they visually modeled and incorporated fingerspelling in their natural conversations. Furthermore, relatively early, they used intentional instructional activities during which children were explicitly shown the relationship between the fingerspelled handshapes and the printed letter or word. ABC foam letters were most often used to match the letters to handshapes presented by the parent during bath time. Foam letters in the bathtub were also used to make words and to practice fingerspelling. A mother of a deaf child with developmental disabilities reported using foam letters to teach sea animals (e.g., S-H-A-R-K, D-O-L-P-H-I-N, S-T-I-N-G-R-A-Y, W-H-A-L-E) to her 5-year-old. One mother reported fingerspelling toy names that do not have signs, like H-U-L-K. ABC refrigerator magnets were also mentioned as a way to teach the ABCs and spelling. Parents reported using children's wooden blocks with the ABCs or fingerspelling handshapes imprinted on the sides to make a game out of finding the letter or handshape. Wooden ABC and fingerspelling handshape puzzles were also used including those with children's names fingerspelled as pieces of the puzzle. Some parents hung posters on their children's bedroom walls and one parent reported making art with the child's name displayed in fingerspelled handshapes. Technology included using online resources with ASL and fingerspelling videos. For example, parents mentioned the VL2 interactive storybook app and other language and reading resources created by schools. They use smartphone technology to share text messages from family members. One mother reported, "I use websites that expose my son to fingerspelling... I moved from (a foreign country) so I struggle with English. Technology has been a valuable resource. My child watches signed ASL stories from the *Rocky Mountain Deaf School* and *Handsland*." Another mother shared, "my child has observed me working on the keyboard so he likes the keyboard. I will fingerspell a letter and ask him to find the letter on the keyboard and type it."

Several families reported playing the "WHO" game as explained by this mother, "I show photos of family members, fingerspell their names, and then ask 'WHO?'" A version of the WHO game was shared with the mother/father pair. During mealtime the family plays the "WHO" game by taking turns. We fingerspell a family member's name and have the children guess the person. Parents also reported making picture books of family members' photos.

Parents also reported playing card games such as UNO, matching games, Bingo, Jr. Scrabble, and Legos. One mother reported

fingerspelling the names of TV shows (Dr. Wonder's Workshop W-W-W, PJ Masks) and sports teams (KC). The mother/father pair also commented on playing the "WHAT'S THAT?" game, which entails pointing to an object to solicit a fingerspelled response. Parents reported labeling things around the house when their children were approximately 3 years old and began to label drawings with text around that same time frame; however, other parents reported exposure to print much earlier through games, texting, and other activities.

These seven categories were identified during the open coding process and provide insights into how Deaf families use fingerspelling in their everyday lives. Many Deaf families, drawing from a legacy of fingerspelling use, were aware of the importance of fingerspelling for young children's visual language development, and this was validated during their university education. We also found that parents were sensitive to their children's visual development and readiness to attend to longer fingerspelled words. All reported that fingerspelling was a way to expose their children to English and used chaining especially during book sharing. Families shared intentional fingerspelling strategies and strategies for book sharing and writing. These seven categories reveal valuable details of how Deaf parents use fingerspelling in their daily routines.

### *Axial coding*

The seven categories identified during the open coding process were reduced during axial coding to capture three broad categories. The first category, *Deaf Parents View Themselves as the Child's First Visual Language Model*, focused on the Deaf parents' belief in the value of modeling fingerspelling and signing with their young children, a cultural legacy they brought to their child's language experience, leading to socialization within the Deaf family unit. As Deaf bilinguals, parents recognized that fingerspelling is a part of ASL, reinforced by their university education, they began the process of passing on a Deaf identity to their children by fingerspelling their names at birth. The second category, *Deaf Cultural Practices Facilitate Visual Language Socialization*, includes how Deaf parents monitor their child's visual readiness and visual attention to signed communication. Further, they view fingerspelling as providing visual access to English and as an avenue for vocabulary growth, thus strengthening their children's bilingual language acquisition through socialization. The third category, *Visual Language Modeling Supports Visual Cognition during Home Routines*, recognized that Deaf parents use intentional strategies to support visual language and visual cognition. The specific strategies Deaf parents use, which have endured across generations, support their children's bilingual language acquisition, providing a foundation in ASL and English (see Figure 3 again).

### *Central core category*

After reviewing the categories identified during the open and axial coding process, the underlying core category or new theory was identified: Deaf Families Socialize their Children into Deaf Visual-Linguistic Norms through Fingerspelling. This central or core category highlights how Deaf families use language, including fingerspelling, as a socializing agent. Repeatedly, throughout the interviews, we identified the parental role of modeling visual language socialization through child-directed fingerspelling, which reflects a cultural legacy that initiates a child's Deaf identity. Moreover, through early exposure to ASL, fingerspelling, book sharing, and exposure to written English, Deaf children become bilingual in ASL and English, providing a visual language foundation for early reading before they enter school.



**Figure 3** Mother as child's first visual language model (she holds infant, establishes eye contact, then fingerspells M-O-M).



**Figure 4** Mother fingerspelling child's name using visual eye contact and mirroring.

## Discussion

The findings of this study build upon and expand previous studies that focused on Deaf parents using fingerspelling with their young children (Akamatsu, 1982; Blumenthal-Kelly, 1995; Erting et al., 2000; Padden, 1991; Padden & Le Master, 1985; Maestas y Moores, 1980). Similar to the findings in this study, Deaf parents in previous studies were White, well-educated and worked in deaf education or ASL teaching positions. Also, similar to previous studies, Deaf parents reported they used fingerspelling very early in their children's lives for communication, as well as for the teaching of English literacy through games, labeling pictures and objects, and during book sharing and reading (Akamatsu, 1982; Akamatsu & Andrews, 1993; Erting et al., 2000; Padden, 1991; Padden & Le Master, 1985). Unlike the findings in previous studies, in this study, 17 out of 21 or 81% of families reported they used child-directed fingerspelling at birth, which is earlier and to a greater extent than most studies reported previously.

In contrast to previous studies, this study used the Deaf epistemological framework or a Deaf lens in the development of the research design, selection of participants, procedures, choosing a Deaf-hearing bilingual research team, and data analysis (Singleton et al., 2017). Other aspects of Deaf ways of knowing and cultural aspects passed

down through the use of child-directed fingerspelling were found throughout the data. Parents reported continually monitoring their children's visual attention and their use of visual cues, space, and movement—all of which are core Deaf cultural practices by adult users of fingerspelling. Accordingly, visual attention, gaze control, use of space and movement, including spatial reasoning are central to Deaf epistemology as communicative and learning tools (Clark et al., 2015; Hauser et al., 2010; Holcomb, 2010; Paul & Moores, 2010, 2012) and teaching resources by Deaf teachers (Singleton & Crume, 2022). The use of Deaf-centric strategies such as chaining, matching fingerspelling handshapes to alphabetic letters, labeling objects and words with fingerspelling and text, handshape rhymes, etc. are a part of a bilingual legacy that Deaf adults pass down to their Deaf children very early in life (Allen & Moreere, 2020; Allen, 2015; Andrews & Baker, 2019; Humphries and MacDougall (1999); Lederberg et al., 2019).

While some previous studies also utilized sociocultural, psycholinguistic, and child language development models that emphasize a Deaf cultural lens during analyses, this study differs in that it is grounded in a combined sociocultural and language socialization theory. To our knowledge, no previous fingerspelling studies have done this. In our study, Deaf parents' perspectives emerge from the data as they serve as the child's first visual language models, providing early exposure to signs and fingerspelling as a cultural and social practice that builds a Deaf bilingual identity (see Ochs & Schieffelin, Tenets 1, 3, 5). Visual socialization through attention, gaze, and handshape recognition provides parents with scaffolding techniques to instill visual cognition through home routines during play, mealtime, bedtime, and book sharing, which offer multiple opportunities to embed fingerspelling (Tenets 2, 4). Such a sociocultural and language socialization frame produces this new theoretical insight.

## Limitations and the need for future research

The findings of this study cannot be generalized to the larger population of Deaf families. Additional studies are needed to explore fingerspelling in families from other regions of the U.S., as well as families from socioeconomic, ethnic/racial, and multilingual backgrounds, to enlarge the knowledge base of child-directed fingerspelling, which may require different recruitment methods. Another limitation was reliance on parental report, which may be subject to reporting bias. However, the parental report represented the most feasible and practical approach for collecting data about child-directed fingerspelling.

Given that 8% of deaf children have Deaf parents (Mitchell & Karchmer, 2004), further research is needed on fingerspelling's role in early intervention services for hearing parents, particularly in light of the high prevalence of language deprivation within this population (Hall et al., 2017). In addition, studies are needed to identify how early fingerspelling unfolds during early childhood and how it supports emergent literacy and reading in school-age Deaf children.

## Conclusion and implications for practice

All participants in this study felt a strong need to share their knowledge with other parents, aiming to improve language and literacy outcomes for all deaf children, including those children in other countries whose signed languages include a manual alphabet. Fingerspelling is a strategy that hearing parents can learn and start using with their children as a preventive measure to reduce language deprivation (Hall et al., 2017). As Caselli et al. (2021) discovered, deaf children with

hearing parents can develop strong vocabularies at approximately the same rate as deaf children with Deaf parents if ASL is provided by 6 months of age. Furthermore, parental knowledge and training in fingerspelling can open doors for hearing parents to the Deaf community, which may lead to greater awareness of the benefits of a visual language. Early partnerships will be necessary to foster trust with families; thus, there is a strong case for primary care physicians and pediatric audiologists to promote early parental use of sign language, which naturally includes fingerspelling, during the diagnostic audiological process and during the early stages of language intervention. Fingerspelling acquisition and use have been found to prime the neurolinguistic process for bilingual language acquisition and early literacy development (Allen, 2015; Lee et al., 2025; Stone et al., 2015). Since fingerspelling correlates highly with English reading skills (see review by Schönström & Holmström, 2025), this research provides a strong rationale for incorporating fingerspelling into communication and literacy instruction (Lederberg et al., 2019). Finally, this study provides theoretical grounding for the expansion of fingerspelling use for all families with deaf children, especially those receiving early intervention services.

## Endnote

1. For the purpose of this paper, the term Deaf refers to adults who identify as culturally Deaf and use ASL as their primary language.

## Supplementary material

Supplementary material is available at *Journal Of Deaf Studies And Deaf Education* online.

## Author contributions

Sharon K. Baker (Conceptualization, Funding acquisition, Investigation, Project administration, Writing—original draft, Writing—review & editing), Tamby Allman (Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation), Jean F. Andrews (Methodology, Writing—original draft, Writing—review & editing), Monica C. Soukup (Data curation, Investigation), and Milana Donatich (Data curation, Investigation)

## Conflicts of interest

None declared.

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## Appendix A

### Interview Questions

- 1) Tell me about your family. Where do you live? How many children are in the family? Are they deaf, hard of hearing, or hearing (CODA)? What are your children's ages?
- 2) Tell me about your educational background. Where did you go to HS? Did you go to college?
- 3) How would you rate your fingerspelling skills (expert, proficient, still learning)?
- 4) When do you think children are capable of learning to fingerspell?
- 5) Thinking back to when your children were very young (less than 3 yrs old), did you use fingerspelling with them?

- If YES, jump to 6.
- If NO, why not? THANK YOU VERY MUCH. END OF INTERVIEW

If YES response to 5, please answer the following questions.

- 1) At what age did you begin fingerspelling with your children?
- 2) Do you think fingerspelling is important for young children? Please explain.
- 3) What were the earliest words you used when fingerspelling?
- 4) Did you use any specific language activities/games/toys that incorporate fingerspelling?

- 5) Did you use chaining, sandwiching? (demonstrate if they do not know what this means)
- 6) Did you connect fingerspelling to written text? If yes, how? At about what age?
- 7) At what age did your young child/children begin using fingerspelling expressively to communicate?

- a) What words do they express in fingerspelling first?
- b) Do your children blend handshapes into a sign or fingerspell each letter?
- c) Do your children use sandwiching and/or chaining?

- 1) If appropriate for this family ask: Could you describe your young children's use of fingerspelling at their present age? (feel free to work on this and email to me)
- 2) If I gave you a list of common words used by young children, could you identify which ones you or your child fingerspells on a regular basis? (I will email you and you can return by email)
- 3) Would you like to add additional comments?

THANK YOU VERY MUCH. END OF INTERVIEW.