

# Sign language socialization and participant frameworks in three indigenous Mesoamerican communities

Laura Horton

*University of Wisconsin – Madison, USA*

[lahorton3@wisc.edu](mailto:lahorton3@wisc.edu)

Lynn Hou

*University of California – Santa Barbara, USA*

[lhou@linguistics.ucsb.edu](mailto:lhou@linguistics.ucsb.edu)

Austin German

*University of Texas, Austin, USA*

[ag68349@utexas.edu](mailto:ag68349@utexas.edu)

Jenny Singleton

*Stony Brook University, USA*

[jenny.singleton@stonybrook.edu](mailto:jenny.singleton@stonybrook.edu)

This article provides a cross-cultural study of language socialization through sign language in three indigenous Mesoamerican communities. We explore whether child signers are socialized to use visual communicative practices as participants or observers. We present four conversations that illustrate how child signers are socialized into these practices. Child signers in our study acquire appropriate visual practices, even when they are primarily observers. But sign language socialization practices may be distinct from broader patterns of spoken language socialization in terms of participant frameworks. We find that recognition of child signers as full participants in sign conversation is shaped by a constellation of local child-rearing beliefs and language ecology dynamics.

Keywords: language socialization, sign language, Mesoamerica, visual language, participant frameworks

## Introduction

This article provides a cross-cultural study of language socialization through sign language in three indigenous Mesoamerican communities. We focus on what Goffman (1964) describes as ‘encounters’ or face engagements and how children learn the practices or rules of social exchange. As Goffman notes, many encounters have both ratified participants and excluded individuals, or those who are co-present but not explicitly implicated in the conversation. Cross-culturally, children may be more likely to occupy these side-participant roles and we explore whether this affects their ability to master visual practices in sign interactions. We analyse visual and tactile behaviours that have been documented in other signing communities in studies of turn-taking and social interaction (Horton & Singleton, 2022), including: visual-manual turn markers, establishing and maintaining eye gaze during signing, physically arranging participants to accommodate signing, and using eye gaze for joint attention and reference. Our analysis focuses on the relationship between visual/tactile communicative practices and two characteristics of communities that have been linked to distinct socialization styles: participant frameworks and beliefs about language between adults and children. In this study we ask: (1) how the visual and tactile strategies documented for other sign languages surface in the sign languages used where we work; (2) how children are socialized to use them; and (3) whether we observe children using them as expected by signing adults. We present four conversations that illustrate the ways in which child signers are socialized within mixed hearing-deaf and spoken-signed conversations.

## Visual communicative practices, proxemics, socialization and learning

### Proxemics: Physical configurations for communication

Physical arrangement to accommodate conversation has been discussed extensively in research on *proxemics*, the study of the spatial arrangements of interactions (Hall, 1963, p. 1003). Individual communities have locally specific expectations about optimal physical proximity for conversation, appropriate levels of eye contact, and acceptable amounts of physical touch (Hall et al., 1968). Although these standards and expectations typically operate below conscious awareness, people are highly sensitive to violations. For example, outsiders to communities where conversations happen in close physical proximity may find interactions uncomfortable and adjust the distance between interlocutors to introduce more physical space (Hall et al., 1968).

These unspoken expectations for physical configurations of spoken exchange will shape sign conversations as signers engage with interlocutors accustomed to the spoken language norms. But sign language proxemics are further shaped by the visual demands of signing. Bahan (2007) builds on Hall's work and describes typical proxemics in signed conversation he is familiar with from the United States, 'the proxemics or social distance between interlocutors is at a distance that is comfortable for the eyes. When more than two people are involved, the spacing arrangement between signers becomes triangular. When additional signers join the conversation, the circle becomes larger, and always maintains visual sight lines of one another' (Bahan, 2007, p. 89). Local signing practices will thus be responsive to both the ambient practices of surrounding speakers and the considerations that Bahan highlights that are a consequence of the visual-manual modality of signing.

### Characterizing visual and visual/tactile communicative practices

Visual and manual attention strategies and turn markers are significant for all face-to-face interactions. As recent studies of haptic strategies for attention demonstrate, caregivers often use touch to manage child interactants' bodily conduct. For example, 'shepherding' touches are used to get children to go to particular locations, engage in particular tasks, or redirect their attention to a new target (Cekaite & Goodwin, 2021). For signed interactions, both visual and manual attention strategies are

frequently used and are particularly significant because of the importance of establishing the visual engagement of an interlocutor prior to initiating a conversation. If one conversation partner is not attentive or lacks visual access to their partner's signing, then they will not be able to engage in the conversation. Once gaze is established, signers may frequently check to confirm that their interlocutor is still attentive, particularly because signers' gaze will sometimes shift to align with a co-present object when that object is the topic of conversation or related to the topic.

There are a range of other visual communicative practices associated with signing that have to do with gaze patterns and establishing and maintaining visual attention. Some of the most commonly discussed strategies include: waving at your interlocutor, physically tapping or making contact with them, strategies for creating physical vibrations like pounding or knocking on a surface or stomping on a floor, pointing and flicking the (electrical) lights to attract the visual attention of a group of signers. These practices are not unconstrained; social norms govern their appropriate execution and frequency, for example, Graham (2014) describes examples of teachers in deaf preschools ignoring or actively discouraging inappropriate attentional behaviours. In sum, visual and tactile/haptic strategies are essential ingredients for communication across modalities and across communities, perhaps especially so for signed interactions. In this study, we document these strategies in interactions that involve child signers using local signed languages.

### Participant frameworks and socializing children as participants or observers

Over the past 40 years, language socialization studies have demonstrated that young children around the world are not always the recipients of speech directed to them in the context of an adult caregiver-child dyad. Rather, there are diverse configurations in terms of how many people are typically present and involved in conversations, whether adults address children directly, how much language input children receive from adults versus other children, and how children are physically transported and oriented throughout the day.

Some of these features, like participant frameworks and the prevalence of child-directed language, interact directly. In communities with larger families who live in intergenerational households, it may be common for many adults to be together in the home space at any given time and

adults may be more likely to engage with the other co-present adults. In contrast, smaller families are the norm in many middle-class communities in the United States. In these homes, adults may be more likely to pursue dyadic conversation with young children (Ochs & Schieffelin, 1984). In a multiparty conversation with a mixture of adults and children, adults have the choice to incorporate children as participants or to primarily address the other adults, placing children in the role of observers. In a dyadic conversation with one adult and one child, however, the only alternative to engaging the child directly as a participant is silence or the absence of engagement because there are no alternative conversation partners present.

Extensive longitudinal ethnographic research shows that typically developing children become competent language users and members of their communities even in the face of immense variation in the quantity and type of language that they receive directly versus overhear. We explore how sign language socialization fits into the broader typology of socialization styles.

## Local patterns of socialization and signed interaction

The data for this study were collected in Zinacantán and San Juan Quiahije (both located in southern Mexico), and Nebaj (located in Northwest Guatemala). All three communities are found in the same region of Mesoamerica (see Figure 1). In Table 1 we summarize the demographic characteristics of each community including population size and the primary spoken languages.

*Table 1* Community characteristics including population and spoken languages.

<i>Community</i>	<i>Population</i>	<i>Spoken languages</i>
Zinacantán, Chiapas, Mexico	45,373	Tsotsil; Spanish
San Juan Quiahije, Oaxaca, Mexico	4,203	Chatino; Spanish
Nebaj, Guatemala	69,162	Ixil; Spanish

## Spoken language socialization and participant frameworks

The three communities in this study are not identical and have unique spoken language socialization practices, but we lack the space in this paper to discuss them in detail. Here, we focus on common practices across



*Figure 1* Map showing location of communities.

the three communities that we have observed during the course of our fieldwork or which have been documented in the literature. Families in Zinacantán, San Juan Quiahije and Nebaj are often large and encompass multiple generations and extended family within one residence or family compound. This leads to frequent multiparty conversations populated by a mix of relatives of various ages. Children are around and involved in the social life of the family from birth. Caregiving of young children is often distributed across adult relatives and older siblings or cousins. It is common for children as young as six to be responsible for siblings two or three years younger. In our observations, deaf children are expected to contribute to the household and engage in the same chores and activities as their hearing siblings.

Young children accompany adults throughout the day. Women typically carry young children (infants through toddlers) on their back or front, tied with a shawl. De León has described the ways that this configuration often gives the child the same visual perspective as the caregiver who is carrying them (De León, 2011, pp. 85–86). This integration in adult routines, as well as child caretaking, has implications for patterns of language socialization as children are exposed to a variety of conversations as participants, proto-participants and observers.

As noted in studies of spoken language socialization in other communities in the region (Brown, 1998; De León, 1998; Gaskins, 1996; Pfeiler, 2011), dyadic face-to-face conversations between adult caregivers and young children may be less frequent in these communities than in the United States. However, other interactional routines including triadic prompting, rhetorical questions, quoted speech and teasing are frequently used to introduce young children as ‘proto-participants’ in multiparty conversations (De León, 2011; Pfeiler, 2011). These local practices of spoken language socialization inform and shape sign language socialization patterns, a topic we return to below.

### Ideologies of sign language interaction

Deaf people in the communities described here have limited exposure to a national sign language (e.g. Mexican Sign Language, LSM; or Guatemalan Sign Language, LENSEGUA<sup>1</sup>) and there are no local schools specialized for the deaf. However, deaf people do sign with their hearing and deaf relatives. They use local sign languages with varying time depths. Depending on the number of deaf people in the family and their ages, these sign languages may have been in use for a single generation or multiple generations. The proliferation of terminology to describe the kinds of sign languages or sign systems used in the communities where we work has been discussed elsewhere (Goico & Horton, 2023; Hou & De Vos, 2022; Moriarty & Hou, 2023). Some of the terms that have been used include: shared sign languages, family sign languages, shared homesign systems, natural sign, village sign languages and micro-community sign languages (de Vos & Nyst, 2018; Green, 2014; Horton, 2018; Hou, 2016; Nonaka, 2009; Nyst, 2012). We do not address the theoretical implications of the diverse practices for labelling signing communities, and choose to use the term ‘local sign languages’ as well as ‘signing practices’ to avoid theoretically or socio-politically charged terminology that could contain an evaluative judgment about the status or functional capacity of these systems.

In families with deaf individuals from Zinacantán, San Juan Quiahije and Nebaj, hearing relatives have varying degrees of proficiency communicating with their deaf family members using sign. Signing proficiency seems to be related to both age and exposure. Often hearing children who interact with a signing sibling, cousin, parent or grandparent are more proficient signers than hearing adult relatives who have deaf children or grandchildren. Hearing people who are in closer contact and spend

more time with deaf signers are typically more fluent signers, but there is also a significant amount of individual variation related to individual personality, motivation and relationships with the deaf family member(s). Perception of signing proficiency also varies, as noted in Haviland (2016) and Hou (2020). Deaf signers judge the signing of other deaf relatives and ideologies of ‘good’ and ‘bad’ signing emerge quickly even in small signing communities consisting of a single family.

Deaf people interact with non-signing hearing people from the community, both at home and in public when they run errands, go shopping and travel to visit relatives. Local beliefs about interacting with deaf people, using sign or gesture, are significant for child signers because they affect whether child signers will observe signed conversations between others and how frequently they might be included as a participant in a conversation using sign. In some interactions in these communities, non-signing hearing people are comfortable engaging in quick, spontaneous gestured conversations with deaf signers, and speakers and signers may not characterize a strong distinction between signing and gesturing (Hou, 2016; Kusters & Sahasrabudhe, 2018). It is not the case however, that all local hearing people are able to communicate fluently with deaf signers. We have observed conversations between deaf signers and hearing non-signers from the community break down or require mediation from a hearing relative of the deaf person who is also a fluent signer. We have not observed strong trends of ‘deaf alliances’ or an emergent sense of ‘Deaf culture’ in the communities where we work. The degree to which deaf people identify with and seek out other deaf signers seems to vary across communities, but in many descriptions, deaf people identify more strongly with their kin group and local community than they do with other deaf people from outside the community or family (Kisch, 2008).

### Participant frameworks, deaf-hearing interactions and language choice

Conversations in each of these communities can happen in one of the local spoken languages or sign, and may shift within a single conversation based on who is present, their age, their hearing status and their signing fluency. We present possible configurations of hearing/deaf and adult/child speaker/signers and the most common language choice outcomes that we have observed in Table 2. These are not absolute relationships, all conversations



*Table 2* Relationship between participant hearing status, age and language modality.

<i>Principle interlocutors</i>		<i>Language modality</i>
Hearing adult	Hearing adult	Spoken
Hearing adult	Hearing child	Spoken
Deaf adult	Deaf adult	Sign
Deaf adult	Deaf child	Sign
Hearing adult	Deaf adult	Mixed
Hearing adult	Deaf child	Mixed
Deaf adult	Hearing child	Mixed

evolve and shift as the interaction unfolds, but these represent general tendencies in our observations of these kinds of exchanges.

As noted in Chicán, a Yucatec Maya village with a high incidence of deafness, hearing people in the communities where we work often sign when communicating directly with a deaf person, but they will almost always speak with other hearing people, even in the presence of deaf people (Safar, 2019, p. 38). This ‘asymmetry’ between deaf and hearing people in mixed speech/sign communities has also been described for Al-Sayyid Bedouin Sign Language (ABSL) (Kisch, 2008). In the context of this study, we are interested in whether child signers prompt signing adults to switch the modality of the language they are using when they are in mixed company of deaf and hearing signers.

Language choice is significant for child signers, especially deaf child signers, because they may have limited access to spoken language conversations, but signed conversations are only guaranteed in interactions between multiple deaf signers. When there is a multiple-participant conversation involving both deaf and hearing people, the language modality can shift frequently, as in one of the examples we discuss below, but this is not necessarily done to accommodate children. We discuss the implications of language choice, and who is addressed in speech versus sign in the discussion, but we find variable distribution of sign language interaction in the conversations we discuss. We suggest that language choice, as well as who will be recognized as a participant emerges in interaction, and is affected by signer age, signer hearing status, and sometimes by a desire to facilitate spoken language development.

## Data, methods and participants

### Data and methods

Our comparative analysis draws on video data of spontaneous signed conversations collected by three of the co-authors at their respective fieldsites. All recordings occurred in the participants' homes. Horton and Hou were present and participated in the interactions described for Nebaj and San Juan Quiahije, respectively. The data from Zinacantán were collected by Rita, a hearing signer, for John Haviland's study of language socialization in September 2009 (Haviland, 2022).<sup>2</sup> The examples in this paper were selected because each co-author felt that the conversation illustrated typical ways of interacting between adult and child signers. Adult participants' informed consent was obtained and adult caregiver consent was obtained for child participants. All data in the analysis were transcribed and annotated by the co-author who collected the data in ELAN, a video annotation software (ELAN, 2022). We have provided informally glossed and annotated screen clips from our videos that highlight the content of the signing, the form of attention getting strategies, the physical arrangement of signers, and the direction of signers' eye gaze.

### Participants: three communities, three families

In this section we provide a brief introduction to the characteristics of the three communities where co-authors Horton, Hou and German work, we then introduce the three families who produced the conversations in this study. As each community is described, the associated co-author – German for Zinacantán, Hou for San Juan Quiahije and Horton for Nebaj – will at times adopt first-person perspective in the narrative of the interactions observed.

#### *Zinacantán, San Juan Quiahije and Nebaj*

Zinacantán is a municipality located in the central highlands of Chiapas, Mexico with a population of 45,373 (INEGI, 2020) the vast majority of whom belong to the Tsotsil Maya ethnic group. The primary language of Zinacantán is Tsotsil, the second largest indigenous language of Chiapas with over 400,000 speakers (INALI, 2012). In addition to their native language, many Zinacantecos have acquired Spanish as a second language, either through commercial interactions with Spanish speakers (Haviland, 1989) or formal schooling, as is increasingly common among the youngest

generation. German has been conducting fieldwork in collaboration with three deaf adult siblings and their hearing extended family members since 2017. Growing up in a Tsotsil-speaking household, the deaf siblings developed a shared sign language (hereafter, ‘Z sign’), which several of their hearing relatives, including a sister, niece, grandniece and son/nephew, have also acquired (Haviland, 2011). Neither German nor local collaborators are aware of any other deaf people in Zinacantán. German and his collaborators have observed individuals using another sign language (potentially Mexican Sign Language, LSM) in the neighbouring market town of San Cristóbal de las Casas, but no attempt was made to interact with those individuals.

The San Juan Quiahije (hereafter SJQ) municipality is located in the southwestern region of Oaxaca in Mexico. The municipality population is 4,203 (INEGI, 2020) and contains two neighbouring villages, San Juan Quiahije (hereafter Quiahije) and Cineguilla, home of the Chatinos, an indigenous Mesoamerican people (E. Cruz, 2011, 2017; H. Cruz, 2014). The hearing Chatinos speak Quiahije Chatino, an Eastern variety of Chatino from the branch of Zapotecan family within the Otomanguean family.<sup>3</sup> The majority of hearing children still acquire SJQ Chatino as their first and dominant language, and many are also acquiring Spanish as their second language in schools (H. Cruz, 2014). Hou first became acquainted with the people of the SJQ municipality through Emiliana Cruz and Hilaria Cruz, who are from the municipality. Since 2012, she has conducted linguistic and ethnographic fieldwork, focusing on the families with deaf children and adults. In 2015, there were eleven deaf people, including five children under the age of 13; in 2019, the updated population of deaf residents is thirteen and the youngest one is four years old (Hou, 2020). All deaf people but three are confirmed to be biologically related to one another through immediate families and/or extended kinship networks. Deaf people who live in the same residence naturally communicate with each other the most, but they will sign to each other through chance encounters on the road or at community events (Hou, 2016).

The city of Nebaj, population 69,162 in 2015 (INE, 2020), is located in the Western highlands of Guatemala. The majority of Nebaj’s residents are indigenous Maya and the primary spoken languages in town are Ixil, a Mayan language in the Mam family, and Spanish. In the course of fieldwork in Nebaj, begun in 2013, Horton has met nineteen deaf residents, including twelve children under the age of 18. None of the deaf people

she has interacted with appear to know or use spoken Ixil or Spanish and, they do not report knowing or using Guatemalan Sign Language (LENSEGUA), which is primarily confined to larger cities like Xela and Guatemala City (Parks & Parks, 2008).

### *The three focal families*

In this section we introduce the three focal families, providing additional information about their demographics, the number of deaf and hearing signers, and the ages of child signers. The familial relationships are illustrated in Figures 2, 6 and 8 just before the conversations from each family are discussed.

The conversations that we present from Zinacantán feature a hearing child, Vic, two-years-old at the time of filming, interacting with his deaf mother Jane and his then eighteen-year-old hearing cousin Rita.<sup>4</sup> Both women are caregivers to Vic and interact with him on a daily basis. Jane communicates with Vic through Z sign, while Rita speaks to him in Tsotsil. However, Rita is also a fluent signer, so Vic has frequent opportunities to observe signed conversations between Rita, Jane and other adults in the family.

The signed conversation from San Juan Quiahije comes from an extended family living in a compound split in two households on the same property. The family has two deaf people, Regina and Angelica. They are sisters. Regina is the oldest of four, and Angelica is the youngest; they are about thirteen years apart and have two brothers between them. Regina has one daughter, Martha, who is about ten months younger than Angelica. At the time of the vignette, Martha and Angelica were aged 4;8 and 5;5, respectively. Angelica lived with her parents and brothers. The two households ran their own kitchens and ate meals separately, but Angelica and Martha interacted with one another regularly. They also attended the local preschool together, although there was no sign support for Angelica. The signing that the family uses is colloquially known as ‘making hands’, an approximate English translation of hearing people’s description of gesturing/signing.

The signed conversations from Nebaj feature the Marcos family who live in a compound of multiple houses that is about a 25-minute walk from the central square. There are several nuclear families spread across the houses and most are children or relatives of Pedro, a deaf octogenarian man with several children and many grandchildren. All of Pedro’s children

(now adults) are hearing, but two of his grandchildren, Rosa and Jorge, are also deaf. At the time of this conversation, Rosa was eight and a half years old and Jorge was one and half years old. Rosa and Jorge's mother, Luisa, who is Pedro's daughter, is hearing, but has both a parent and children who are deaf and use sign to communicate.

## Conversations from Zinacantán, San Juan Quiahije and Nebaj

### Conversations from Zinacantán

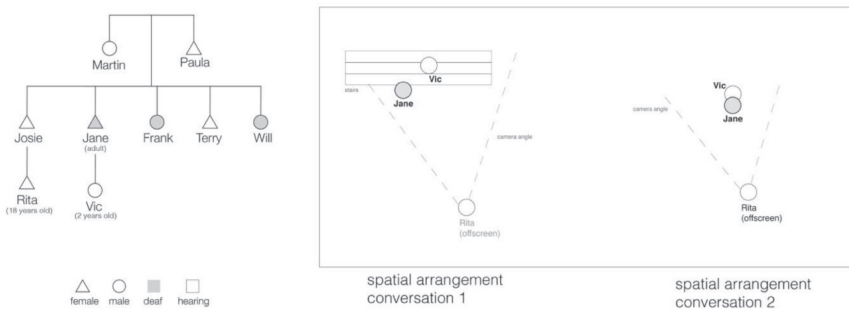
In the first two vignettes, Vic interacts with two of his adult caregivers: his deaf mother Jane and his hearing cousin Rita (see Figure 2). The vignettes illustrate Vic's caregivers' expectations about how he should participate in signed and spoken interactions, how Vic himself chooses to participate, and the contribution of general Zinacantec language socialization practices (De León, 1998, 2011).

#### *Zinacantán conversation 1: Jane and Vic play on the stairs*

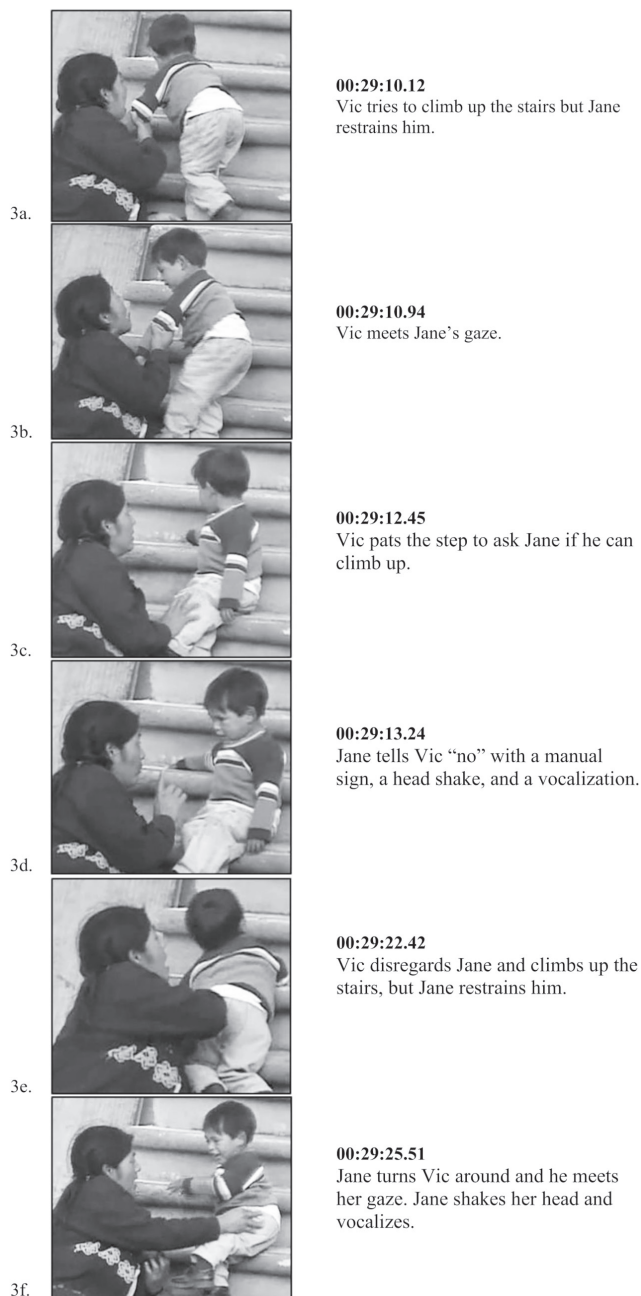
The first vignette demonstrates how a caregiver and child coordinate the position of their bodies and eye gaze for the purposes of turn taking and reference. Jane and Vic are sitting on some stairs in the courtyard of the family house compound during the interaction. We refer the reader to Figure 3 for images and descriptions of their conversation.

#### *Zinacantán conversation 2: Jane carries Vic on her back while conversing with Rita*

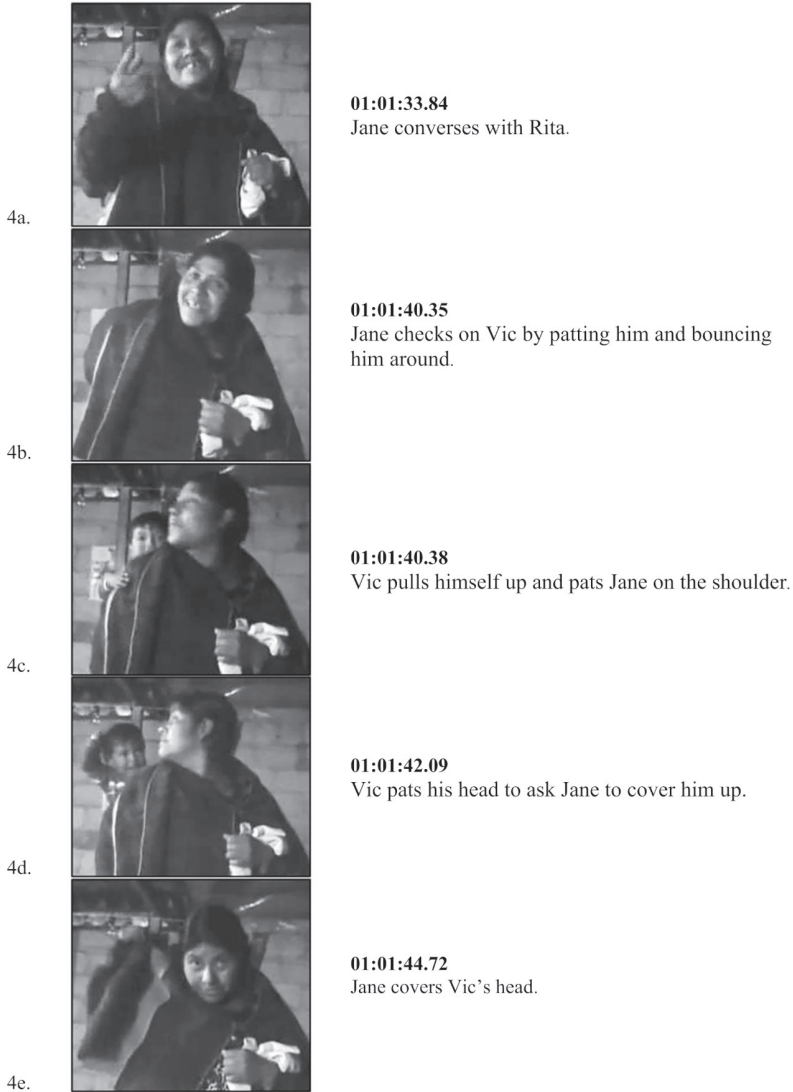
A second vignette illustrates the interplay of multiple modalities in a multiparty interaction that is typical of Zinacantán generally (De León,



**Figure 2** Family relationships between signers from Zinacantán and spatial arrangement of each videorecorded signed conversation.



**Figure 3** Jane and Vic converse on the stairs. Timestamps (hours, minutes, seconds) are provided for each clip above the written description of the signing/ speaking.



**Figure 4** Jane, Rita and Vic converse. Timestamps (hours, minutes, seconds) are provided for each clip above the written description of the signing/speaking.

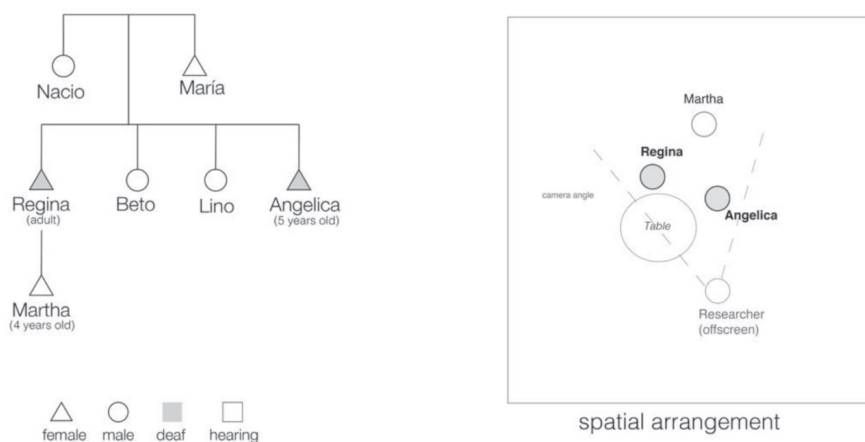
1998, 2011) but especially prominent in this mixed deaf/hearing family. Vic sits in a sling on Jane's back, an arrangement that De León (2011) refers to as the 'nested corporeal niche'. Jane is conversing in sign with Rita who is filming the interaction (see Figure 2). We refer the reader to Figure 4 for images and description of a series of manual/tactile turns between Vic and Jane.

Following Vic and Jane's exchange, Rita engages Vic in an elicitation routine, a typical socialization practice of Zinacantec caregivers (De León, 1998). Rita prompts Vic to speak by asking him in spoken Tsotsil, 'Chavay xa?' (*Are you going to sleep now?*).<sup>5</sup> Vic, pretending to sleep, does not respond to her. Rita, off camera, then asks Jane to uncover Vic so that she can talk to him. Jane pulls the shawl off of Vic, makes eye contact with him, and produces a vocalization. Vic finally turns his gaze to Rita and responds 'Vay' (*Sleep*). Rita then repeats her question to Vic a few more times, and each time Vic responds in the same way before finally covering himself with his mother's shawl again.

### A conversation from San Juan Quiahije

The third vignette is an excerpt of a spontaneous video-recording of a regular day in the life of one signing family. This conversation features Regina, a deaf signing adult and children, Angelica (a deaf signer) and Martha (a hearing signer) (see Figure 5). Although this interaction should not be taken to be wholly representative of the interactions described, it does illuminate the attention-getting and turn-taking strategies in an unfamiliar script between Regina, Angelica and Martha. Elsewhere, this excerpt has been analysed as a demonstration of Regina's ideologies of the signing competence of Angelica and Martha (Hou, 2016, 2020).

Prior to the recording, Regina and the researcher (Hou) were sitting at a small round table in the kitchen during a lull in the afternoon when she



**Figure 5** Family relationships from San Juan Quiahije and spatial arrangement of signers during the videorecorded conversation.








was not working (see Figure 6b). We were watching the girls play. They had just come home from school and were weaving in and out of the kitchen. Thinking that the timing was ideal and being curious about her views on child-centred communication, I asked Regina if she could initiate a conversation with the girls and if I could film them. She consented, and because I used the sign SIGN as part of my request, she likely interpreted this to mean that she should ask Angelica to identify signers. Angelica and Martha were aged 5;5 and 4;8, respectively, at that time.

The figure sequences represent a sequence of seven prompts from Regina, who makes repeated, pained efforts to engage Angelica in a conversation about the identity of signers in their community. This exchange is approximately one minute and 10 seconds long. We refer the reader to Figure 6 for images and descriptions of this exchange.



**Figure 6** Regina’s first prompt to initiate a conversation with Angelica.

After an exchange about the food on the table in front of them, Regina makes a fourth attempt to initiate conversation with Angelica. We refer the reader to Figure 7 for images and description of the continuing interaction between Regina and Angelica with Martha present. Between the events depicted in Figure 7c and 7d, the researcher (offscreen) briefly interrupts the conversation to suggest that Martha can participate, but Regina insists that Martha not be part of the exchange (Regina's beliefs about Martha's signing is discussed elsewhere in Hou, 2020).

- 7a.  **00:01:44.20**  
Regina taps Angelica on her upper arm for attention and re-establishes eye contact with her.  
Martha peers into the camera.
- 7b.  **00:01:46.90**  
Regina shoos Martha away. Angelica turns her head away from Regina and puts an extended finger to her cheek to think.
- 7c.  **00:01:48.50**  
Regina redirects her attention to Angelica and makes a fifth prompt. Angelica begins to sign.
- 7d.  **00:01:57.80**  
Regina taps Angelica for attention and asks her to identify signers. Angelica starts signing while leaning and balancing on the table. Martha is still observing them.
- 7e.  **00:02:12.80**  
Angelica turns her back on Regina and starts signing. Martha shifts her eye gaze to Angelica.

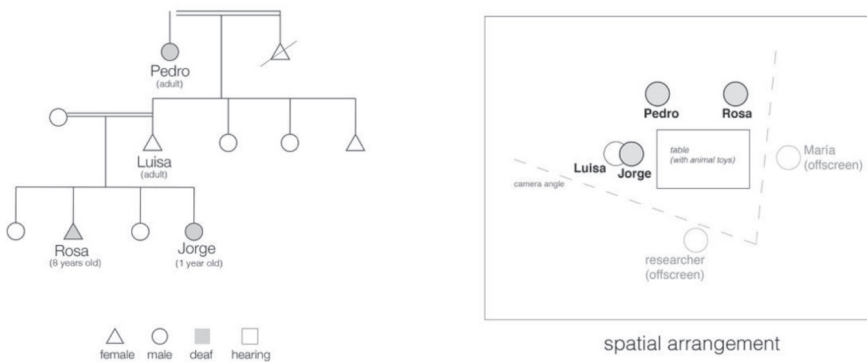
**Figure 7** Regina's additional prompts, Martha's interjection and Angelica's response.

We note that throughout Regina and Angelica's interaction, Martha has continued to observe the signing between Regina and Angelica, as evidenced by her shifting her eye gaze back and forth. She also mimics Angelica's posture, turning her back to Regina when Angelica faces away to sign.






## A conversation from Nebaj

In the final vignette, filmed in Nebaj in June 2014, Luisa, Pedro, Rosa and Jorge sit on a bench and chair around a small table set up on the patio in front of their house, the researcher (Horton), who was filming, stands behind the camera offscreen and a family friend, María, sits to one side. Luisa, Horton and María are hearing. Pedro, Rosa and Jorge are deaf. A set of small toy animals purchased at a local market is spread on the table (see Figure 8). The entire exchange lasts for approximately one minute and forty seconds.

Throughout the conversation, Luisa holds Jorge on her lap, facing out from her body towards the table. This configuration provides him with visual access to the toys and his grandfather and sister. Rosa is seated next to her grandfather, Pedro. This vignette illustrates the types of attention-getting behaviours that Luisa, Rosa's mother, uses when she signs to her father, Pedro. The conversation is multimodal and multilingual; it includes sign, spoken Ixil and spoken Spanish. This vignette offers a snapshot of the ways in which Pedro and Rosa, who are both deaf, respond to and take up Luisa's attempts to manage visual attention as well as their visual behaviour when Luisa is signing compared to when she is speaking.



**Figure 8** Family relationships between signers from Nebaj and spatial arrangement of the videorecorded conversation.

- 9a.  **00:03:51.50**  
Luisa raises her hand/ waves to get Pedro's attention.
- 9b.  **00:03:54.62**  
Luisa holds up praying mantis toy to show Pedro.
- 9c.  **00:03:58.42**  
Luisa waves to get Pedro's attention.
- 9d.  **00:04:01.66**  
Luisa points to praying mantis toy on table.
- 9e.  **00:04:02.18**  
Luisa waves to get Pedro's attention.

**Figure 9** Luisa talks to Pedro about the praying mantis toy.

Luisa's signed turns while telling Pedro a story about a praying mantis are illustrated in Figure 9.

After she signs to her father about the praying mantis, Luisa breaks her eye gaze with him and turns to María, her friend who had accompanied me on this visit and was sitting across from her, off camera. Luisa speaks to María in Ixil (Figure 10a), then turns to me and addresses me in Spanish (Figure 10d). Figure 10 shows her gaze direction during each of these exchanges. After speaking, she turns back to her father and signs to him the same content she had spoken to me in Spanish (Figure 10e).

- 10a.  **00:04:24.00 – 00:04:32.15**  
Luisa turns to María (off camera) and asks her in Ixil about the praying mantis toy.
- 10b.  **00:04:34.85**  
Rosa reaches across her grandfather, in an attempt to get her mother's attention.
- 10c.  **00:04:32.36 – 00:05:10.91**  
Luisa turns to author (off camera, other side of table) and tells me the story about the praying mantis, illustrating how it can land on your shoulder.
- 10d.  **00:05:02.50**  
Luisa holds up snake toy to show author, tells a story about snakes, gestures with the snake toy while speaking (Spanish).
- 10e.  **00:05:11.80 – 00:05:30.24**  
Luisa turns to Pedro, signs the story about the snake to him.

**Figure 10** Luisa talks to María (in Ixil), Horton (in Spanish) and Pedro (in sign) about the snake toy.

## Discussion

### Visual communicative practices in sign language socialization

We observe similarities in visual or tactile practices across the three signing families from Zinacantán, San Juan Quiahije and Nebaj. The practices we documented in the four conversations are listed in Table 3. We found

*Table 3* Visual communicative practices.

<i>Practice</i>	<i>Examples</i>
Proxemics/physical configurations	Maintaining visual access/sight lines
Visual/tactile attention and turn markers	Waving Tapping Knocking Stomping Pointing
Gaze	Gaze for attention Gaze for reference

examples of all of these practices in the conversations between deaf and hearing adult and child signers, but highlight specific instances, with reference to the examples, in Table 4.

In our data, child signers who are two, four, five and eight years old, appear to recognize the expectations for visual communication. In example one (Figure 4) – with Vic, Jane, and Rita – and in example four (Figures 9, 10) – with Luisa, Pedro, Jorge and Rosa – child signers Vic and Rosa seem to be aware of and performing visual practices appropriately. Vic knows to get Jane’s attention and visual gaze before signing when he is positioned on her back (Figure 4c) and Rosa is attentive to her mother’s waves to her grandfather as indicators that she is about to begin a turn. Rosa uses a wave herself when she attempts to initiate a turn (Figure 10c). The child signers we have observed demonstrate an ability to perform practices for visual attention, but they can also resist them, showing reluctance or refusal in interactions with other signers, underscoring the agentive role of child signers in their own socialization (Berman, 2019; Berman & Smith, 2021; García-Sánchez, 2016).

### Reluctant participants: Vic and Angelica

We find child signers subverting or rejecting some visual practices in example one – with Vic and Jane (Figure 3) – and in example three (Figures 6, 7) – with Regina, Angelica and Martha. As other scholars have noted (Kulick & Schieffelin, 2004; Ochs et al., 2005), socialization is not an automatic process of reproduction. Children are active agents in this process and may or may not take up the practices that are modelled for them or explicitly requested/instructed.

Table 4 Visual and tactile communicative practices.

<i>Conversation</i>	<i>Description</i>	<i>Example</i>
<i>Manual markers for establishing attention</i>		
2. Vic, Jane and Rita	Jane pats Vic Vic pats Jane's shoulder	Figure 4b Figure 4c
3. Regina, Angelica and Martha	Regina uses a variety of prompts to solicit Angelica's attention including: <ul style="list-style-type: none"> <li>▪ pointing</li> <li>▪ pounding on the table</li> <li>▪ waving</li> <li>▪ reaching for or tapping Angelica's arm</li> </ul>	Figure 6a Figure 6d Figure 6e Figures 6c, 7a
4. Luisa, Pedro, Rosa and Jorge	Luisa initiates many of her turns with a wave to get Pedro's attention before signing	Figure 9a Figure 9c Figure 9e
<i>Gaze: Checking for or reestablishing eye contact before beginning to sign</i>		
1. Vic and Jane	Jane engages Vic to establish eye contact	Figure 3b
2. Vic, Jane and Rita	Vic gets Jane's eye contact before signing	Figure 4d
3. Regina, Angelica and Martha	Regina reestablishes eye contact with Angelica before signing	Figure 7a
4. Luisa, Pedro, Rosa and Jorge	Luisa establishes/reestablishes eye contact with Pedro before signing	Figure 9e Figure 10e
<i>Proxemics: Physically arranging to accommodate signing</i>		
1. Vic and Jane	Jane physically adjusts Vic so that he is positioned to sign with her	Figure 3f
2. Vic, Jane and Rita	Vic pulls himself up so that he is visible above Jane's shoulder when she turns to look at him	Figure 4c
3. Regina, Angelica and Martha	Angelica defies the norms for proxemics twice: first, by leaning forward on the table while signing second, by turning her back on Regina so that she cannot see her signing	Figure 7d Figure 7e
<i>Gaze: Using gaze for joint attention and reference</i>		
1. Vic and Jane	Vic turns and faces the step as he pats it	Figure 3c
4. Luisa, Pedro, Rosa and Jorge	Luisa uses gaze to reinforce her topic, establishes joint attention between Luisa, Pedro and Rosa	Figure 9b

Based on the interactions between Jane and Vic and Regina and Angelica, it seems that both of the deaf signing adults, Jane and Regina, do expect that the signing children, Vic and Angelica, will recognize the markers of a signed conversation initiation and be able to enter into appropriate proxemics and communicative practices for signing. We do not interpret Vic and Angela's resistance to these expectations to suggest that they are unaware or unable to perform them – as has been suggested for deaf children from hearing families who enter signing spaces for the first time (Graham, 2014; Singleton & Crume, 2022). Rather, Vic and Angelica are consciously subverting or rejecting the roles that Jane and Regina ask or expect them to take up by wilfully violating the expected proxemic and gaze patterns. In the example with Vic, it seems he wants to engage in a different activity than the one Jane wants to initiate. Angelica also seems reluctant to perform her signing the way that Regina desires, but it's not clear whether this is because of the presence of the researcher (who she knew quite well), the video camera, or for some other reason. What is significant for our analysis are the ways that each child signer's engagement with the interaction relates to the style of socialization adopted by the adult signer(s). As active agents in their own socialization, children and adult co-construct their social roles in interaction, and when Vic and Angelica resist Jane and Regina's overtures, it prompts more explicit demonstrations and reminders of their expectations. This occurs through direct physical intervention from Jane and emphatic repetition from Regina.

### Learning through observation: Rosa and Martha

While Angelica and Vic are engaged as active signers or speakers by adult signers and speakers, the other two child signers in this study are not. Martha, Regina's hearing daughter, and Rosa, Luisa's deaf daughter, are not active participants in either conversation for which they are present, but they do have visual access in both cases. It is interesting to consider the reasons why each child signer is left out of the conversation because, we argue, they may be excluded for different ideological purposes.

At one point, Martha approaches the table where Regina and Angelica are negotiating the list of signers (Figure 7b) and Regina shoos her away, effectively blocking her signed participation. The language ideologies at play here are discussed elsewhere (Hou, 2020), but clearly Martha's status as a child signer is not the source of her exclusion because Regina does engage Angelica, also a child signer. Regina recognizes Angelica as a



legitimate signer because she is deaf. Martha continues to be present for the exchange as an eavesdropper, and even participates in the exchange in a remote way later on, mirroring Angelica's posture when she turns to face away from Regina.

Rosa, like Martha, does not get to contribute to the conversation between her mother, Luisa, and grandfather, Pedro, but in this example, her status as a child is what precludes her participation. Luisa engages her father, Pedro, signing to him in the presence of a mixed hearing and deaf, signing and non-signing audience. Rosa's experience is similar to that of many hearing children in this community who are expected to observe adult spoken language conversations, but not necessarily to participate as direct conversation partners. Rosa is included as a proto-participant in the second story that Luisa signs to Pedro. This resembles an observation from De León (and others), that even though children may not be directly addressed, they frequently are invoked in conversation as the topic or a quoted third-party character (De León, 2011).

### Signing in mixed company: participant frameworks and language modality

Fluent signing adults are the source of communicative and linguistic input – whether directed or observed – for child signers. But the consistency of the modality they choose shifts with each conversation based on the composition and configuration of hearing and deaf signers, and children versus adults (as discussed above). Based on our observations, only deaf signing adults reliably sign with signing children (hearing or deaf). Hearing signing adults may sign to another deaf adult in the presence of a deaf child, but hearing signing adults may also choose to speak to a hearing signing child, especially if they are concerned about that child's proficiency with the spoken language and their development into a hearing speaking person, as we saw with Rita and Vic in the second example.

In Table 5, we summarize the language modality and visual practices that we observed for each of the child signers in the conversations presented in the analysis as well as each child signer's social role.

We find that Vic and Angelica, who were addressed by a deaf signing adult, are engaged as participants in signed conversation. Though they occasionally resist this involvement, both child signers demonstrate an awareness of appropriate visual practices and both of the adult signers in these conversations (Jane and Regina) model appropriate proxemics,

*Table 5* Participant frames and language choice. Asterisks indicate child participants who are deaf.

<i>Child</i>	<i>Participant framework</i>	<i>Language modality</i>	<i>Visual / tactile practices</i>	<i>Social role of child, style of socialization</i>
Vic (1)	Multiparty <sup>6</sup>	Sign only	– physical arrangement – gaze patterns	Participant (signer)
Vic (2)	Multiparty	Mixed: sign and speech	– tactile monitoring – physical arrangement – gaze patterns	Participant (signer and speaker)
Angelica*	Multiparty	Sign only	– turn initiators – physical arrangement – gaze patterns	Participant (signer)
Martha	Multiparty	Sign only	Accessible, but not recipient of practices	Observer / eavesdropper
Rosa*	Multiparty	Mixed: sign and speech	Accessible, but not recipient of practices	Observer / eavesdropper

turn initiation and eye gaze. Though they are not permitted to engage in conversation as signing participants, both Martha and Rosa have access to the signing going on between others in their presence and both children appear to be actively tracking the conversational turns throughout the exchange. Although Martha and Rosa are only engaged as observers or eavesdroppers, both are proficient signers, and seem to have acquired appropriate visual practices through their observation of family conversations.

## Conclusion

The groundbreaking cross-cultural study of language socialization by Ochs and Schieffelin (1984) introduced language acquisition scholars to the notion that caregivers may interact with their infants and toddlers in fundamentally different ways; they may differ about when they believe a child is ‘ready to be spoken to’ or to what extent talk is explicitly directed at children. We find that child signers in some of these communities experience many signed language conversations as observers, but this does not seem to inhibit their acquisition of visual and tactile practices for signed communication. We suggest that the distribution of signers and sign languages may influence styles of language socialization and learning. Specifically,

in communities with a low density of signers, dyadic interactions may be more common in sign language and incorporate child signers, even if spoken language conversations typically involve multiple speakers. Lastly, we find that who is addressed as a participant in signed interactions is a product of the local language ecology and connected to signers' age, hearing status, as well as characteristics of others co-present in the conversation.

Schieffelin (1990) argues that in language socialization processes, caregivers may be both aware (e.g. explicit, discursive statements that shape children's language use) and unaware (e.g. situating their children in daily multi-party conversational interaction that results in their child developing a 'wide' or 'open' mode of attention). In the communities we have observed, the boundaries between deaf and hearing individuals seem lower than what has been described for standardized national sign languages, particularly those with deaf institutions like dedicated schools. Though Zinacantán, San Juan Quiahije and Nebaj are not characterized by a distinct 'Deaf culture' and thus an opportunity for socialization into 'Deaf' cultural practices could be construed as absent, we are struck by the visually based conversational practices that are clearly present. We cannot fully know whether adult signers are aware of and socializing visual practices with intention, but there is evidence in our recorded vignettes that both adults and children engage in behaviours that reflect an awareness that signing or visual/tactile people are participating in the interactions and that they have certain needs for successful communication to take place. In communities where signing people live, congregate and communicate within multimodal linguistic ecologies, there is indeed sensitivity to several key tenets: that connected eye gaze is needed for signed communication to be effective; that proxemics or positionality matters for ease of visual communication including gaze shifting to follow multi-party signed interactions; and that getting the attention of a deaf interlocutor requires a visual/tactile bid.

Goffman (1964) describes social situations as 'an environment of mutual monitoring opportunities' (p. 135) with rules and customs for entering, exiting and taking a turn. But he does not offer an account of how children come to know these rules and customs. Cross-cultural studies of language socialization provide an opportunity to flesh out the processes through which children come to learn practices and rules for 'encounters' or face engagement. Introducing signed language conversations expands Goffman's model, showing that encounters do not rely exclusively on sound and space but also vision and touch. Although Goffman suggests that encounters

must always involve ‘a circle of others ratified as coparticipants’ (Goffman, 1964, p. 135), children are often not ratified as participants, but they frequently are permitted to be co-present in an interaction. Our study of sign language socialization suggests that children are socialized into mutual monitoring opportunities, both as participants and observers of signing adults in their local environments.

## About the authors

Laura Horton is an Assistant Professor in the Language Sciences Program at the University of Wisconsin, Madison. Her research focuses on sign language documentation with particular attention to lexical variation, pragmatics, and discourse structure. She works on local sign languages from Guatemala as well as sign language socialization and acquisition in classroom settings in the United States.

Lynn Hou is assistant professor of linguistics at the University of California, Santa Barbara. Her areas of specialization are documentation and description of sign languages, child language acquisition of signed languages, usage-based and ethnographic approaches to acquisition, linguistic ethnography including language socialization and language ideologies, inclusion and social justice in linguistics.

Austin German is a doctoral student in the Department of Linguistics at the University of Texas at Austin. His research focuses on Zinacantec Family Homesign, a signed language developed by three deaf siblings and their hearing extended family members in Zinacantán, an indigenous community of Chiapas, Mexico. His research interests include the relationship between community structure and grammatical structure in emergent sign languages, and how variation in the learning environment influences an individual’s language development.

Jenny Singleton is a professor in the Department of Linguistics at Stony Brook University in New York. Her research sits at the intersection of psychology, linguistics and education. She uses experimental, language elicitation, and observational research methods to investigate sign language acquisition. Her overarching research question aims to understand the role of language modality (spoken or signed) and socialization patterns present during the language acquisition process, especially when the learner, or the learning context, are considered atypical.

## Notes

- 1 The International Organization of Standardization (ISO 639-9) uses the designation ‘gsm’ as does Glottolog and the Endangered Languages Project.

- Deaf people in Guatemala City and Cobán refer to their language as LENSEGUA (Parks & Parks, 2008).
- 2 We would like to thank John Haviland for generously sharing these video data. As a former research assistant on that project, German was responsible for annotating the contents of Rita's films and has approval to conduct the analyses presented in this paper.
  - 3 The term 'Chatino' refers to both the ethnicity and the group of Chatino languages. The Quiahije Chatino language is known for its intricate morphophonology where lexical and grammatical distinctions are encoded by tone (E. Cruz, 2011).
  - 4 All names are pseudonyms.
  - 5 When reviewing this vignette with Rita, German did not ask her whether she signed while speaking to Vic so as to make the conversation accessible to Jane. However, based on my observations of interactions in this family, I feel confident in assuming that Rita did not sign while she spoke to Vic.
  - 6 Although only Jane and Vic interact directly, Rita is present and filming, as an observer.

## References

- Bahan, B. (2007). Upon the formation of a visual variety of the human race. In H. Dirksen & L. Bauman (eds), *Open Your Eyes: Deaf Studies Talking* (pp. 83–99). University of Minnesota Press.
- Berman, E. & Smith, B. (2021). De-naturalizing the novice: A critique of the theory of language socialization. *American Anthropologist*, 123(3), 590–602. <https://doi.org/10.1111/aman.13624>
- Berman, E. (2019). *Talking like children: Language and the production of age in the Marshall Islands*. Oxford University Press. <https://doi.org/10.1093/oso/9780190876975.001.0001>
- Brown, P. (1998). Conversational structure and language acquisition: The role of repetition in Tzeltal. *Journal of Linguistic Anthropology*, 8(2), 197–221. <https://doi.org/10.1525/jlin.1998.8.2.197>
- Cekaite, A. & Goodwin, M. (2021). Touch and social interaction. *Annual Review of Anthropology*, 50, 203–218. <https://doi.org/10.1146/annurev-anthro-101819-110402>
- Cruz, E. (2011). Phonology, tone, and the functions of tone in San Juan Quiahije Chatino. Unpublished doctoral dissertation, University of Texas at Austin.
- Cruz, E. (2017). Documenting landscape knowledge in Eastern Chatino: Narratives of fieldwork in San Juan Quiahije. *Anthropological Linguistics*, 59(2), 205–231. <https://doi.org/10.1353/anl.2017.0006>
- Cruz, H. (2014). *Linguistic Poetic and Rhetoric of Eastern Chatino of San Juan Quiahije* [Unpublished doctoral dissertation]. University of Texas at Austin.
- De León, L. (1998). The emergent participant: Interactive patterns in the socialization of Tzotzil (Mayan) infants. *Journal of Linguistic Anthropology*, 8(2), 131–161. <https://doi.org/10.1525/jlin.1998.8.2.131>

- De León, L. (2011). Language socialization and multiparty participation frameworks. In A. Duranti, E. Ochs & B. Schieffelin (eds), *The Handbook of Language Socialization* (pp. 81–111). Blackwell Publishing. <https://doi.org/10.1002/9781444342901.ch4>
- de Vos, C. & Nyst, V. (2018). Introduction: The time-depth and typology of rural sign languages. *Sign Language Studies*, 18(4), 477–487. <https://doi.org/10.1353/sls.2018.0013>
- ELAN. (2022). ELAN version 5.8 [computer software]. Nijmegen: Max Planck Institute for Psycholinguistics, The Language Archive. Retrieved from <https://archive.mpi.nl/tla/elan>
- García-Sánchez, I. (2016). Language socialization and marginalization. In N. Bonvillian (ed.), *The Routledge Handbook of Linguistic Anthropology* (pp. 159–174). Routledge.
- Gaskins, S. (1996). How Mayan parental theories come into play. In S. Harkness & C. Super (eds), *Parents' Cultural Belief Systems* (pp. 345–361). Guilford Press.
- Goffman, E. (1964). The neglected situation. *American Anthropologist*, 66(2), 133–136. [https://doi.org/10.1525/aa.1964.66.suppl\\_3.02a00090](https://doi.org/10.1525/aa.1964.66.suppl_3.02a00090)
- Goico, S. A. & Horton, L. (2023). Homesign: Contested issues. *Annual Review of Linguistics*, 9, 377–398. <https://doi.org/10.1146/annurev-linguistics-030521-060001>
- Graham, P. (2014). Deaf techniques of the body in the preschool classroom: Preschool as a site for enculturation in Deaf culture. Unpublished doctoral dissertation, University of Georgia.
- Green, E. M. (2014). Natural signs: Nepal's Deaf society, local sign, and the production of communicative sociality. Unpublished doctoral dissertation, University of California, Berkeley.
- Hall, E. T. (1963). A system for the notation of proxemic behavior. *American Anthropologist*, 65(5), 1003–1026. <https://doi.org/10.1525/aa.1963.65.5.02a00020>
- Hall, E. T., et al. (1968). Proxemics [and comments and replies]. *Current Anthropology*, 9(2/3), 83–108. <https://doi.org/10.1086/200975>
- Haviland, J. B. (1989). Paisanos and Chamulitas: speech relations in and around Zinacantán. *Multilingua*, 8(4), 301–332. <https://doi.org/10.1515/mult.1989.8.4.301>
- Haviland, J. B. 2011. Nouns, verbs, and constituents in an emerging 'Tzotzil' sign language. In R. Gutiérrez-Bravo, L. Mikkelsen & E. Potsdam (eds), *Representing Language: Essays in Honor of Judith Aissen* (pp. 157–171). Linguistics Research Center, Santa Cruz.
- Haviland, J. B. 2016. 'But you said "four sheep"!': (sign) language, ideology, and self (esteem) across generations in a Mayan family. *Language & Communication*, 46, 62–94. <https://doi.org/10.1016/j.langcom.2015.10.006>
- Haviland, J. B. (2022). How and when to sign 'hey!': Socialization into grammar in Z, a 1st generation family sign language from Mexico. *Languages*, 7(2), 80. <https://doi.org/10.3390/languages7020080>

- Horton, L. (2018). Conventionalization of shared homesign systems in Guatemala: Social, lexical, and morphophonological dimensions. Dissertation, University of Chicago. <https://doi.org/10.6082/uchicago.1321>
- Horton, L. & Singleton, J. (2022). Acquisition of turn-taking in sign language conversations: An overview of language modality and turn structure. *Frontiers in Psychology*, 4413. <https://doi.org/10.3389/fpsyg.2022.935342>
- Hou, L. (2016). ‘Making hands’: Family sign languages in the San Juan Quiahije community. Dissertation, University of Texas at Austin.
- Hou, L. (2020). Who signs? Language ideologies about deaf and hearing child signers in one family in Mexico. *Sign Language Studies*, 20(4), 664–690. <https://doi.org/10.1353/sls.2020.0023>
- Hou, L. & de Vos, C. (2022). Classifications and typologies: Labeling sign languages and signing communities. *Journal of Sociolinguistics*, 26(1), 118–125. <https://doi.org/10.1111/josl.12490>
- INALI. (2012). México: Lenguas indígenas nacionales. Retrieved from <https://site.inali.gob.mx/>
- INE. (2020). Proyecciones nacionales 1950–2050. Retrieved from [www.ine.gob.gt/proyecciones/](http://www.ine.gob.gt/proyecciones/)
- INEGI. 2020. México en Cifras: Zinacantán, Chiapas (07111). Retrieved from [www.inegi.org.mx/](http://www.inegi.org.mx/)
- Kisch, S. (2008). The social construction of deafness in a Bedouin community in the Negev. *Medical Anthropology*, 27(3), 283–313. <https://doi.org/10.1080/01459740802222807>
- Kulick, D. & Schieffelin, B. (2004). Language socialization. In: A. Duranti (ed.), *A Companion to Linguistic Anthropology* (pp. 349–368). Blackwell. <https://doi.org/10.1111/b.9781405144308.2005.00018.x>
- Kusters, A. & Sahasrabudhe, S. (2018). Language ideologies on the difference between gesture and sign. *Language and Communication*, 60, 44–63. <https://doi.org/10.1016/j.langcom.2018.01.008>
- Moriarty, E. & Hou, L. (2023). Deaf communities: Constellations, entanglements, and defying classifications. In A. Duranti, R. George & R. C. Riner (eds), *A New Companion to Linguistic Anthropology* (pp. 122–138). Wiley Blackwell. <https://doi.org/10.1002/9781119780830.ch7>
- Nonaka, A. (2009). Estimating size, scope, and membership of the speech/sign communities of undocumented indigenous/village sign languages: The Ban Khor case study. *Language and Communication*, 29(3), 210–229. <https://doi.org/10.1016/j.langcom.2009.02.004>
- Nyst, V. (2012). Shared sign languages. In: B. Woll, M. Steinbach & R. Pfau (eds), *Sign Language: An International Handbook* (pp. 552–574). De Gruyter Mouton. <https://doi.org/10.1515/9783110261325.552>
- Ochs, E. & Schieffelin, B. (1984). Language Acquisition and Socialization: Three Developmental Stories and Their Implications. In: R. Shweder & R. LeVine (eds), *Culture Theory: Essays on Mind, Self and Emotion* (pp. 276–320). Cambridge University Press.

- Ochs, E., Solomon, O. & Sterponi, L. (2005). Limitations and transformations of habitus in Child-Directed Communication. *Discourse Studies*, 7(4–5), 547–583. <https://doi.org/10.1177/1461445605054406>
- Parks, E. & Parks, J. (2008). *Sociolinguistic Survey Report of the Deaf Community of Guatemala*. SIL Electronic Survey Report 2008-016, December. SIL International.
- Pfeiler, B. (2011). ‘Lo oye, lo repite y lo piensa’: The contribution of prompting to the socialization and language acquisition in Yucatek Maya toddlers. In B. Pfeiler (ed.), *Learning Indigenous Languages: Child Language Acquisition in Mesoamerica* (pp. 183–202). De Gruyter Mouton. <https://doi.org/10.1515/9783110923148.183>
- Safar, J. (2019). Translanguaging in Yucatec Maya signing communities. *Applied Linguistics Review*, 10(1), 31–53. <https://doi.org/10.1515/applirev-2017-0082>
- Schieffelin, B. (1990). *The Give and Take of Everyday Life: Language Socialization of Kaluli Children*. Cambridge University Press.
- Singleton, J. L. & Crume, P. K. (2022). The socialization of modality capital in sign language ecologies: A classroom example. *Frontiers in Psychology*, 13, 934649. <https://doi.org/10.3389/fpsyg.2022.934649>