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The Development of Narrative Skills
in British Sign Language

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By the end of the preschool period, children have acquired a substantial portion of the generative language system commensurate with that of the adult. Despite this ability, there are still many challenges that remain in learning how to use language in different pragmatic contexts. This chapter focuses on the continued developments and refinements that occur in the production of deaf school-age children's narratives in British Sign Language (BSL). Although the data and psycholinguistic models discussed are based on narratives produced in BSL, it is intended that this work can be applied to other signed languages.

The chapter includes an exploration of the issues surrounding deaf children's mastery of the extended uses of signed language narrative (e.g., those needed for academic discourse). It is argued that these developments revolve around the bilingual relationship between literacy in signed and spoken language. School-based activities involving comparative narrative analysis are outlined at the end of the chapter.

FROM FIRST WORDS TO FIRST STORIES

Children start to link sentences together in narrative only after a prolonged period of mastering the sentence-level linguistic devices of their

language. Berman (1988) and Berman and Verhoeven (2002) have described this as one "paradox" of language development in that children progress from mature use of their language at one level to a complete lack of awareness of the new pragmatic demands made of the same linguistic forms at the level of discourse. Bamberg (1986), also writing about this transition, argued that

> Linguistic knowledge of lexical semantics and syntactic rules forms the building blocks out of which narrative is constructed; we expect the child first to acquire linguistic knowledge and then to apply this knowledge (in the form of semantics/syntactic building blocks) when acquiring the ability to tell narratives. (p. 1)

The production of narrative involves the coordination of at least three major cognitive domains. First, many linguistic devices are used within and across sentences and bigger discourse units (e.g., in episodes and settings). Some of these include the correct use of gender, number and tense agreement, the use of markers for direct discourse, and correct anaphoric and cataphoric reference (McCabe & Peterson, 1990). Second, pragmatic abilities are central in narrative production and comprehension, which require awareness of a conversation partner or addressee's information needs (Hudson & Shapiro, 1991). Third, domain-general cognitive abilities such as working memory and information processing are involved in narrative for the sequencing of large amounts of information (Eisenberg, 1985).

These domains are also involved in the construction of sign language narratives. Although less well documented than in spoken languages, work on sign language discourse has revealed how modality specific devices (e.g., eye-gaze shifts) are used to organize and structure extended signed texts (Bahan & Supalla, 1995; Gee & Kegl, 1983; Roy, 1989). The structure of narrative in signed language is probably more akin to similar texts produced in nonwritten languages with "oral" traditions (Bahan & Supalla, 1995). This difference between BSL and English will become more salient in the final section of this chapter.

The development of the cognitive abilities necessary for narrative begins with children's first attempts at moving from sentence level descriptions of the "here-and-now" to talking about past or fictional events in narrative. Narrative has its origins in the first proto-narratives that stem from children's experiences of picture book "reading" and play involving toys and other objects that occur in most homes in the years preceding entry to school. Good communication between parents and children during these activities would seem crucial. Successful development of proto-narrative skills is an issue if deaf children are not accessing all the important information in the spoken language addressed to them.

As abilities in sequencing events increase proto-narratives get larger (Applebee, 1978; Wigglesworth, 1997). Once children begin school, narrative gets entwined in other important developmental milestones such as theory of mind (Eaton, Collis, & Lewis, 1999).

What Goes Into a Narrative?

The narratives produced by typically developing 3–5-year-olds are generally vague and not well constructed. They frequently centre on some event of personal and immediate significance. Often different character's actions in different episodes are not linked across the narrative; rather, the child describes each successive scene independently. By early school age (5–6 years), children are already able to consistently produce stories with certain key elements, such as where the narrative is set, and sometimes more optional and alternative information is provided (Applebee, 1978; Wigglesworth, 1997). By 5–6 years children can narrate with a basic story grammar and attempt to organize the flow of information in a hierarchical fashion. Other story elements such as the internal responses of characters including their motivations, intentions, goals, and plans for resolving conflicts emerge much later in development.

It is after 6 years that narratives that are more adultlike begin to develop; these contain plots, character development, and a logical sequence of episodes. As children mature, their narratives become longer, more detailed, and better organized and contain a greater number of episodes. The episodes are also more likely to be complete and to be embedded within larger discourse units (subplotting).

At around the age of 8 or 9 years, children can link stories between different sentences and obey the linguistic and pragmatic constraints imposed on them for telling a story to another person (Kemper, 1984). It is also around this age that the introduction of detail and variation through differential linguistic markers such as pronouns and the linking devices "and," "so," and "when" start to occur. More effort is also evident with increasing age to engage and keep the listener's attention. This is related to the child's development of discourse pragmatics.

The development of more complex narrative and pragmatic skills is interwoven into children's educational experience. As literacy abilities grow, so the links between "oral" narrative skills and the new extended, decontextualized uses of language encountered in written texts become more evident (Westby, 1998). Oral narrative skills encouraged in earlier classroom experiences are activities such as "show-and-tell" or fictional storytelling.

Narrative has long been considered important for later reading readiness and literacy in general (Debaryshe, 1995), so much so that in Britain, narrative development features in the government's "Early Learning Goals" (Botting, 2002). These guidelines suggest that prior

to starting school, children should be able to use language to "imagine and recreate roles and experiences." It is important to point out that for many deaf children these language-based preschool activities may not be fully developed before children arrive at school because of issues to do with successful communication with their hearing parents.

Some studies also point out that the cultural biases in certain narrative skills are more preferable in mainstream education than others (Brice-Heath, 1983). Different cultures define and value varieties of narrative skills in different ways, meaning that "children from some backgrounds enter school with existing knowledge of the type of narrative structure that is valued in school; while children from other backgrounds do not" (Peterson, Jesso, & McCabe, 1999, p. 1).

THE DEVELOPMENT OF DISCOURSE PRAGMATICS

Pragmatic competence involves the ability to use language appropriately in different social contexts. Most of what is discussed in this chapter concentrates on the pragmatic abilities involved in retelling events from storybooks. One part of pragmatics is knowing the principles that govern how information should be organized across a series of interrelated utterances in order to make the parts of a narrative cohesive or connected. In this chapter the narratives produced by deaf children are described by focusing on two aspects of pragmatics: (1) the marking with the appropriate reference form, the relative newness of information as a function of a specific referential function, and (2) the controlling of the sequence of episodes. In the following sections these two aspects of narrative are discussed in turn.

Marking Reference Forms and Referential Functions

All languages use linguistic devices to pick out entities within discourse. English has a continuum of reference forms with different referential saliencies or dependencies. These include indefinite noun phrases (e.g., "a little boy"), definite noun phrases (e.g., "the dog"), pronouns (e.g., "the boy and the dog looked for the frog; *they* found some trees"), and zero or ellipsed forms (e.g., "he climbed up the tree and *zero* looked in the hole"). These forms carry out several referential functions during the telling of a story, including the introduction of a character as the discourse topic into the narrative for the first time, the reintroduction of a character into the narrative after leaving or after being replaced as the discourse topic by another character, and the maintenance of a character in the narrative as the discourse topic over stretches of several linked utterances.

Narrative involves the building up of layers of information about characters, places, and events. Givòn (1983) established the principle

that the choice of form used in narrative is related to its function (e.g., introduction, reintroduction, or maintenance of reference). When retelling stories, narrators make choices about how a character will be focused on in the narrative (Slobin, 1996). The first time a character is introduced into the story, this is new information, and so reference is made through a salient or referentially unambiguous reference form (e.g., "a little boy"). There are two options available following an introduction: The character may stay as the discourse topic and hence be maintained or may leave the focus of attention temporarily, needing to be reintroduced at some later time. In these latter contexts, more subtle, less salient reference forms are used, for example, pronouns or zero forms. Previously given information for identifying the antecedent of the anaphoric form is assumed to be shared implicitly by both the narrator and the addressee. The use of reduced reference forms functions as a pragmatic signal or marker of this implicitness or relevance (Sperber & Wilson, 1995). The relationship between form and function for English can be shown as a hierarchy of explicitness shown in table 13.1.

Person Reference in BSL

While the reference forms in BSL[1] differ, it appears that they perform similar referential functions from those described for English (Morgan, 2000). There are several reference forms available to adult signers of BSL when narrating (see Sutton-Spence & Woll, 1999, pp. 271–274). The three relevant forms described here are noun phrases, entity or semantic classifiers, and role shift.

Table 13-1: A Hierarchy of Explicitness in English

Form	Explicitness
Indefinite noun phrase	High
Definite noun phrase	↕
Pronoun	
Zero form	Low

[1] Signed sentences that appear in the text follow standard notation conventions. Signs are represented by SMALL CAP English glosses. Repetition of signs is marked by "+". Above the glosses, eyegaze markers such as blinks (ØØ), direction (left/right or neutral space) and gaze toward the addressee (><) are indicated by a vertical line across the affected segment. In later sections semicircles represent the fixed referential space with the flat edge nearest to the signer's perspective. The location of an entity classifier is shown by an "X" in the semicircle. A full circle represents the shifted referential space. Arrows indicate the direction of a sign's movement.

Noun phrases   As in many spoken languages (e.g., Russian), there is no lexical difference between indefinite and definite noun phrases in BSL. The distinction is marked through discourse pragmatics. Noun phrases can also be expressed through a finger spelt word, for example, T-O-M, or a name for one of the characters, for example, BIG-NOSE.

Entity classifiers   In narrative, entity or semantic classifiers (Supalla, 1990) mark the semantic category or the size and shape of the referent noun and are used for establishing referent identity, as well as describing topographical information (see Emmorey, 2003). For example, the classifier for vehicle is articulated in BSL with a B hand shape (a flat hand with the palm face down). In most narrative cases, classifiers are rarely used to introduce a new character, but instead, they are used to maintain reference to an entity previously mentioned through a noun phrase antecedent. The example shown in figure 13.1 relies on the signer previously signing CAR so that in the succeeding sentence the classifier for vehicle and its movement are clearly understood. On its own, the hand shape could also refer to other vehicles.

Role shift   In BSL narratives it is often the case that the words, actions, and thoughts of a character are described through direct discourse. This reference form is referred to in the literature by various terms such as "role shift" (Loew, 1984), "referential shift" (Emmorey & Reilly, 1998), and "constructed action" (a particular form of role shift; Metzger, 1994; Winston, 1995), among others. Metzger (1994) pointed out that when the signer switches to role shift to describe what someone said, did, or thought, the narrator's actions are not a direct copy of what the third person did but a constructed version of these actions. Role shift is used in narrative to maintain reference as its use relies on previous identification thorough a noun phrase antecedent. This referential

Figure 13-1: "The car moves under the bridge."

Figure 13-2. "The dog jumps up at the beehive."

device allows the signer to describe the actions of one of the characters in the narrative. The example in figure 13.2 shows the signer describing the actions of a dog jumping up at a beehive.

In the previous discourse, the narrator refers to the dog explicitly through a noun phrase and then shows how the dog jumped up at a swinging object. The signer represents the animal through both manual (the shape of her hands) and nonmanual means (the face). Importantly, this allows reference to the character to be maintained across a stretch of discourse (within an episode).

Reference forms in BSL, as in English, can be placed on a hierarchy of explicitness related to the amount of information they carry. This is shown in table 13.2, where the reference forms discussed are placed on a hierarchy related to how much previous information is required for their use.

This hierarchy means that if the signer signs BOY, the noun phrase requires very little previous information to identify the referent. Thus, it is the most salient or explicit of the reference forms available. Other reference forms require more previous information for their correct use in discourse, as they are less explicit. In BSL entity classifiers can be used to refer to both boys and dogs in discourse. Handshape distinguishes

Table 13-2: A Hierarchy of Explicitness in BSL

Form	Explicitness
Noun phrase	High
Entity classifers	↕
Role Shift	Low

between the two classes of animate entities: a "g-hand" (the index finger) for humans and a "bent v-hand" (a victory sign with fingers bent) for small animals. However, the entity classifier only refers to a class of semantically similar objects rather than a particular member of that group. The small-animal classifier does not distinguish between a dog and a cat, for example; this information must be given as an antecedent. Thus the classifier reference form requires more previous information for its correct identity than the noun phrase as it carries less explicit information. Lastly, the role shift reference form, because it uses the signer's whole body, cannot be used as easily to distinguish between human, vehicle, or flat object, and so forth. Because it is the least explicit in terms of the amount of identifying information it carries, this reference form requires the most amount of previous information from the narrator to ensure its correct identification by an conversation partner viewing the narrative (see Morgan & Woll, 2003).

The Development of the Organization of Reference Forms in English

Bamberg (1986) proposed stages in the development of reference form organization. Initially children choose explicit reference forms that unambiguously pick out characters even though they are maintaining reference rather than introducing or reintroducing. This can be seen in the second mention of the boy through a repeated noun phrase in the following example from a 5-year-old:

(13.1) "The boy fell-out and the bees were flying after the dog, *the boy.*"

At the next stage of development, Bamberg described children as focusing on the organization of reference at the level of the sentence by using one character as the main or "thematic subject" perspective. In this way within small narrative units, the main character can be maintained as the discourse topic through reduced forms, for example, pronouns, but in a rigid, formulaic way, as in example 13.2:

(13.2) "*The dog*'s sitting down, and *he* finds the beehive, and *he*'s looking at it, and the boy's looking through a hole, and then he goes to the branch, and the dog is sitting down" (6-year-old, from Wigglesworth, 1997, p. 298)

Bamberg's final stage is reached when children choose a form based not only on the nearness of an immediate mention but also by taking into consideration what is going on in the bigger discourse unit. In this way pronouns and zero forms can be used with full anaphoric functions stretching across intervening referents but relying on the wider pragmatic context (what is going on in the rest of the story beyond the immediate sentence) to provide coherence. This can be seen in example 13.3, where the child uses the pronoun (him) in the final sentence.

The pronoun is clearly understood as referring to the "boy" character despite there being intervening noun phrases:

> (13.3) "...and *the boy* looked down a hole, and a beaver came out, and the dog was shaking the tree where the beehive was, and he made the beehive fall, and *the boy* was looking in a tree...hole, and the owl, an owl came out and pushed *him* down" (10-year-old, from Wigglesworth, 1997, p. 294).

Adultlike use of this pragmatic knowledge continues to develop in the teenage years. The control of reference in order to carry out more complicated referential functions coincides with a major growth in the child's pragmatic abilities to assess the knowledge of the listener as well as monitor the narrative for ambiguity (Bamberg, 1986; Berman & Slobin, 1994). The development of literacy is important in making these connections clear through direct text analysis tasks. By seeing how reference functions across static written texts, children with good command of their first language can more easily build up knowledge of how complex narratives are made up from layers of information about characters, places, and events. Consequently, children are expected in school to construct their oral narratives and extended uses of language (debating, answering questions, or constructing explanations) based on the written narrative template. This way of speaking like you write, but also thinking like you write (Olson, 1994), becomes one of the more preferred and valued types of narrative skills in the school context (Peterson et al., 1999). As discussed in the final section of this chapter, this transference of narrative abilities from oral to written codes relies on nativelike knowledge of a first language, which is implicitly assumed in most hearing children but may not be the case in some deaf children.

Reference Organization and Its Development in BSL

The narratives analyzed and presented here were collected from 12 deaf children and 2 deaf adults exposed to BSL from infancy from their deaf parents or in early childhood from their hearing parents. All the children attended a deaf-only day school, which had adopted a bilingual BSL/English policy. The hearing parents all signed with their children and were enrolled in adult sign language courses. In the school setting, all the children had good models of fluent adult BSL, including extensive examples of narratives and had been informally assessed as having age-appropriate levels of BSL.[2] The age of the

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[2] At the time these data were collected, there was no standardized BSL assessment battery (see Herman et al., 2004). Deaf teachers carried out all language assessment through informal measures.

Table 13-3: Child Narrators' Ages and Parental Hearing Status

Child	Age (year;month)	Parental Hearing Status
1	4;3	Hearing
2	4;9	Deaf
3	5;6	Deaf
4	5;7	Hearing
5	7;8	Deaf
6	9;6	Hearing
7	9;10	Hearing
8	10;4	Hearing
9	11;6	Deaf
10	11;10	Hearing
11	13;1	Hearing
12	13;4	Deaf

children ranged from 4 years 3 months (4;3) to 13;4, and none had any developmental impairments. Details of the children's ages and parental hearing status are given in table 13.3. For comparison, the children were grouped into three age groups as shown in table 13.4.

Data Collection

The narratives were elicited through a picture book retell task. The book, *Frog Where Are You?* (M. Mayer, 1969), consists of 24 wordless pictures of various scenes depicting the adventures of a young boy and his dog, as they search for an escaped frog. After familiarizing themselves with the book, children retold narratives from memory in BSL to their deaf class teacher. During the retell, the picture book was not present. This method for collecting the story was chosen because previous studies have shown that if the book is present, young children often use the surface of the picture book for reference, rather than linguistic devices (Baker, van den Bogaerde, Coerts, & Woll, 1999; Morgan, 2003). The narratives were recorded on a video camera positioned next to the addressee. Trained deaf and hearing signers transcribed the signed narratives.

Table 13-4: Age Groups

Group	Age (years)	N
1	4–6	4
2	7–10	4
3	11–13	4

General Narrative Organization

Looking at the development of narrative across the 12 children and 2 adults, the number of episodes produced in the narratives increased across the different age groups. The use of increasingly more episodes across the groups reflects the development of memory and planning processes. The percentage of the three reference forms (noun phrases, classifiers, and role shift) classified as ambiguous (not possible to identify the identity of the character the reference form referred to) conversely shows a uniform decrease across the groups. This information is summarized in table 13.5.

Next, the narratives were analyzed for the way the children and adults used particular referential forms.

Coding Reference Forms for Particular Referential Functions

In studies of BSL narrative development, for example, Morgan (1998, 2000) and Morgan and Woll (2003), reference forms appearing in narratives were coded for whether they introduced, reintroduced, or maintained reference to a character. This means that an introduction was the first mention of a character in the story. If a character went out of discourse focus because of an intervening referent, then when it was referred to again it was coded as a reintroduction. Maintenance constituted the continued reference to a character that remained in discourse focus. The ability to judge which reference forms are needed for which referential function is a pragmatic skill based on assessing the conversation partner's needs. Children developing BSL need to master this level of pragmatic knowledge in order to tell clear and interesting signed narratives.

Results of the Age-Group Comparison for Reference Form and Function

A comparison of which referential function the noun phrases, for example, BOY, DOG, or FROG, in the narrative were performing revealed

Table 13-5: General Narrative Development Across Age Groups

Measure	Group 1 (4–6 years)	Group 2 (7–10 years)	Group 3 (11–13 years)	Adults
Episodes	5.5	13.5	16.5	19
References	28	75	96	140
Ambiguous reference	16%	8.8%	.2%	0%

Data are mean number of episodes in narratives, total number of reference forms used and mean ambiguous reference

that in all age groups both children and adults used them mainly to introduce and reintroduce characters. There were differences across the groups however, the lowest percentage of use for maintenance was in the adults (6%) and the highest percentage use was in the youngest age group (22.5%). This is shown in figure 13.3. The inappropriate selection of a form that is very information explicit for light referential functions was most salient in the youngest children. The younger children also failed to use explicit noun phrases to introduce new characters, which adults did nearly 100% of the time.

The use of repeated salient reference, through noun phrases, in the 4–6-year-olds for maintenance maps onto the first stage in Bamberg's developmental model (Bamberg, 1986). At this age children are concerned with making sure characters are mentioned with explicit reference forms at the level of the sentence and are less able to balance demands for relevant reference across larger units of discourse. The more appropriate pattern of noun phrase use for referential function is clearer in the 7–10-year-olds. Interestingly even the oldest children in the groups (11–13 years) used noun-phrase forms for reintroduction and maintenance in a different way than the two adults, suggesting that narrative skills are still developing at this late age.

Turning to the other referential forms in the narratives produced by adults, nearly one third (31%) of the total number of tokens of reference maintenance was through entity classifiers, while only 4% of the total number of reference introductions was through this form (see figure 13.4). In cases where an adult used a classifier to introduce a referent,
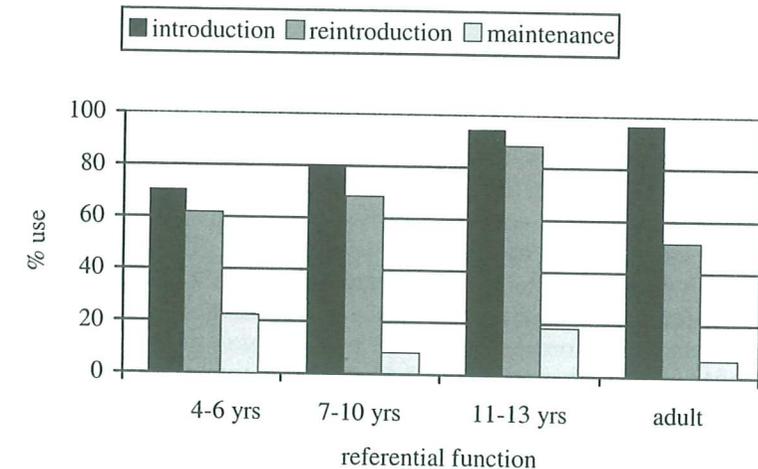

Figure 13-3. A comparison of noun phrase use across referential function and age group as a total percentage of reference forms used.
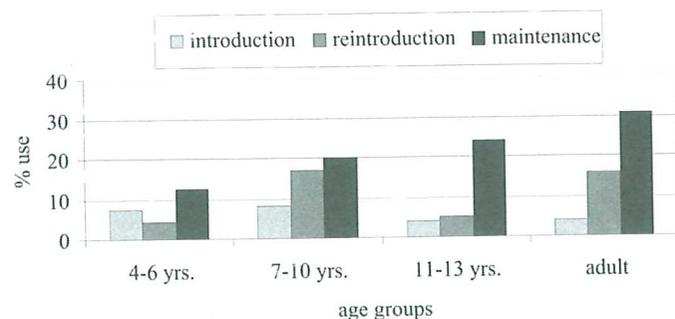
Figure 13-4. Adult and children's use of classifiers as a percentage of total number of reference forms across each referential function.

there was cataphoric reference; that is, they were immediately followed by a noun phrase identifying the referent explicitly. Entity classifiers, because of their low information explicitness, are important, therefore, for reference maintenance and to report old or already talked about information in narratives.

This pattern of form and function contrasts with the use of the same entity classifiers in the narratives produced by the children. The youngest children (4–6-year-olds) used entity classifiers markedly less for maintenance than the two adult signers (12.5% of total reference maintainers compared to 31% in the adults), and this use increased with age (20% for 7–10-year-olds, and 24% for the 11–13-year-olds). Conversely, the youngest children were twice as likely to choose an entity classifier to introduce a character, without the clarifying cataphoric or following noun phrase, as the adults were (8% of introductions in 4–6-year-olds compared to 4% in adult narratives).

These results suggest that while the youngest children are able to use entity classifiers at the single sentence level, they are still developing the necessary pragmatic knowledge for using these same forms with narrative functions. Adults and the oldest children (11–13 years) reserve their use mostly to maintain reference to characters in a narrative; thus, their use is anaphoric. This is pragmatically appropriate as classifiers carry very little identifying information. The youngest children (4–6 years) did not show this level of pragmatic awareness. Classifiers in the youngest children appeared across the three referential functions fairly uniformly.

The third reference form used for maintenance was role shift, as shown in figure 13.5. Role shift to refer to a character follows a similar functional distribution to that for classifiers. Across all age groups, it was used most predominantly for maintenance of discourse topic (59% of total reference maintainers in the adults). Role shift was used more
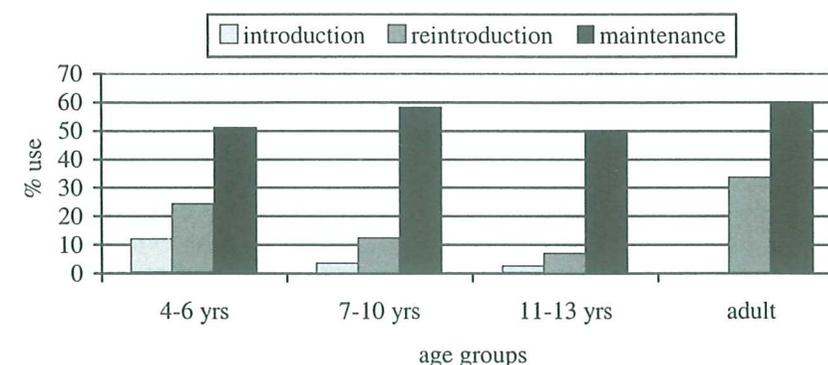
Figure 13-5. Adult and children's use of role shift as a percentage of total number of reference forms for each referential function.

than classifiers for maintenance of reference. The adult narrators repeated role shifts several times in parts of their narratives in order to maintain a focus on a particular referent. None of the adult narratives included role shift for introduction of referents, whereas in the 4–6-year old group, a significant percentage of reference introductions (11.25%) were made through this form. This was often the cause of referential ambiguity (see table 13.5), as the form does not carry enough referential information to successfully serve this function.

Concerning these results, it appears that even the youngest children understand that role shift is a referential form appropriate for referential maintenance. What marks the difference between an adult and child use of role shift is the subject of a separate chapter, but it appears that adult signers are able to keep track of where they are in a narrative and that this control triggers how overtly the role shift is made. Role shift can be signaled through overt or discreet changes in head, face, and body posture. The further into a narrative the adult narrator is, the more often role shift can be used to identify a referent but also the less overt these shifts to role shift can be (Morgan, 1999). This is not the case for child narrators who produced overt role shifts at all points in their narratives.

In general, control of the pragmatic role of entity classifiers and role shift in discourse develops gradually with initial mastery at the sentential level, where young children may use these constructions correctly but fail to use them appropriately in relation to their new referential functions in discourse (see also Loew, 1984, for American Sign Language).

Discussion now turns to the second aspect of narrative to be described in BSL—the control of sequences of events.

Controlling the Sequencing of Episodes

This aspect of narrative involves the setting out of a series of episodes in a story clearly enough so that the conversation partner may follow what has happened as a logical sequence of related events across time (McCabe & Peterson, 1990). Some background on narrative is described first.

There are two overlapping times in a narrative: the external plot time and the passage of the internal episode sequences. While in the canonical story the plot time passes from the start of the story to some sort of completion, within the internal discourse units (parts of the story) episodes are not always sequentially organized. The ordering of single episodes through the course of the narrative may involve some overlapping, repetition, or adjustment of time forward or backward within the overall plot time.

Controlling the Sequencing of Episodes in English

Within the overarching plot time, individual parts of the narrative being retold may contain overlapping pieces of information, for example, where two referents are involved in separate co-occurring activities. An example of this type of episode time overlap is depicted in the events in figure 13.6, A and B. These two pictures come from the storybook *Frog Where Are You?* (M. Mayer, 1969). In the complete story the plot revolves around two characters (a boy and a dog) and their eventful search and eventual discovery of an escaped frog. The plot time progresses through the picture book from an introduction of the main characters and initial realization of the frog's disappearance to the final rediscovery of the frog and the happy ending. Figure 13.6 shows one complicated subpart of the story: In A, the two main characters are seen searching for the frog in separate trees at the same time; in B, the two characters are involved in overlapping events where the boy discovers an owl in the hole he was looking into while the dog is chased by a swarm of bees. Across the "Frog story" there are several complicated episodes like the "owl and beehive scene" where events when retold in a narrative unfold in a nonlinear way. Describing this scene requires the narrator to express a sequence of events by overlapping, repeating, or moving parts of the episode backward in time while keeping the plot flowing forward.

In order to do this successfully a narrator chooses particular strategies to describe overlapping events that will make the description both internally consistent and understandable. An adult English speaker described the events in figure 13.6A in the following way: "To the dog's amazement, he knocked the beehive off the tree while the boy was searching the trunk" (example from Berman & Slobin, 1994).

6a

6b

Figure 13-6. The owl and beehive scene in *Frog Where Are You*? (M. Mayer, 1969). Pictures reproduced with permission from Dial Press, New York.

The speaker's description of the two parts of the episode is sequential, as speakers (naturally) can only talk about one part at a time, yet we interpret the two subparts of the event as taking place simultaneously or in overlapped episode time because of the connective "while." The ordering of the two events in the episode in this way allows the listener to move attention between the two character's actions sequentially but still take from the description an appreciation of the simultaneity.

Controlling The Sequencing of Episodes in BSL

The devices available to users of signed languages offer other possible strategies for talking about simultaneity: "One of the advantages of sign languages is that the visual-spatial modality enables the simultaneous presentation of not only more than one piece of information but

also the information that these things are happening simultaneously" (Aarons & Morgan, 2003, p. 125).

In analyzing how a series of episodes are laid out in BSL narrative, Morgan (1999, 2002) describes how adult signers divide up the series of connected utterances between two types of linguistic sign space: (a) the fixed referential space (FRS) and (b) the shifted referential space (SRS; see also Aarons & Morgan, 2003; van Hoek, Norman, & O'Grady-Batch, 1987).

During a signed narrative these sign spaces are continually changing and being reused for reference to characters, to describe the physical layout of a scene and for expressing the passage of episode and plot time. The set of reference forms described in the preceding section get used within with these two sign spaces.

The Fixed Referential Space

The FRS is an area of representational sign space. In narrative, signers may use specific locations in this sign space with noun phrases and subsequently link pronouns and verb inflections to these locations (Lillo-Martin, 2002). Signers also use the FRS to describe anaphoric and spatial relationships with entity classifiers (e.g., Emmorey & Falgier, 1999). The important feature of the FRS is its fixedness during a set part of a narrative episode. The locations of noun-phrase indexes or the classifier entities placed within the FRS may change through the duration of a narrative, but this reuse of the space is clearly indicated by the narrator by setting up new noun phrases and locations.

The Shifted Referential Space

In the SRS the sign space is extended to include the signer's own body as a character in the narrative and not just as the articulator of the sign message (the narrator). Up to this point in this chapter, this use of space has been referred to through the term "role shift." The SRS becomes useful when the narrator uses direct discourse, for example, when the narrator wants to report what a character did by shifting to the character's point of view rather than through a description provided from the narrator's perspective. A common signal that the SRS is being used is a brief disengagement of eye gaze by the signer from his conversation partner; that is, the signer momentarily looks away from the conversation partner while articulating direct discourse in role shift (as shown in figure 13.2).

Telling Stories Using the FRS and SRS

When describing a complicated sequence of events, such as in the owl and beehive scene, adult signers organize the narrative episodes by moving between the FRS and SRS. Some of the information is laid down in the FRS for character identity or particular locations and

relations between objects and characters. More information about a character's actions from that character's or another character's perspective may be linked into this FRS space through direct discourse in the SRS. In this way the narrator describes how different episodes are to be understood as following a particular sequence and allows the signer to move between particular perspectives (both physical and temporal) on a scene. During the laying out of this information, it is common to see the narrator looking intently back and forward between areas of space relevant in the narrative as well as looking at the conversation partner. Looking at the conversation partner, when identifying particular characters and transitions between spaces, functions to stress that pieces of information in the narrative will be important for understanding the passage of events. In this way the narrator highlights as important particular parts of the narrative in a similar way that intonation does in spoken language narratives.

BSL has different ways of organizing episodes than that in English (for similar devices in other signed languages, see Engberg-Pedersen, 1995; Miller, 1994). In narrative, switching between or even overlapping referential forms in the FRS and SRS allows the signer to refer to two characters acting in the same episode. The use of duel perspectives on one scene has been described in the literature as SAME-TIME-WHILE (e.g., Valli, 1987).

To illustrate this, in figure 13.7, the signer describes two characters engaged in the same activity. First the boy is mentioned, followed by a direct discourse description of his actions LOOK-DOWN(1) through role shift in the SRS. Then the dog is mentioned explicitly and an entity classifier for small animal is placed in the FRS on the signer's

Narrative time ⟶

Right hand: BOY LOOK-DOWN(1) DOG LOOK-DOWN(2)

Left hand: ANIMAL-SIT

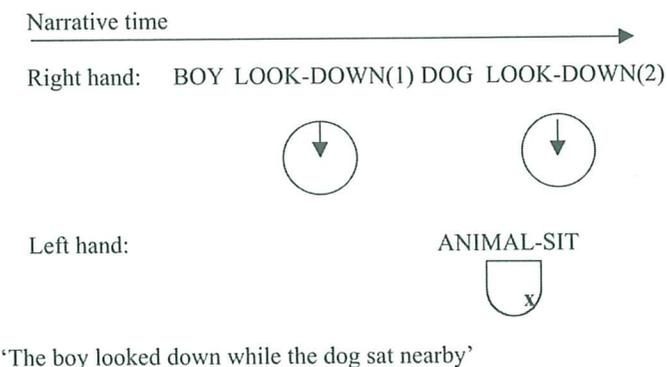'The boy looked down while the dog sat nearby'

Figure 13-7. Overlap of the FRS and SRS. Semicircles represent fixed referential space, with the flat edge nearest to the signer's perspective. The location of an entity classifier is shown by an X in the semicircle. Full circles represent the shifted referential space. Arrows indicate the direction of a sign's movement.

BOY   ENTITY-FALL(1) DOG JUMP-UP BEES SWARM BOY ENTITY-FALL(2)

'As the boy was falling, the dog made the bees angry and then the boy hit the ground'

Figure 13-8. Using flashbacks to overlap subparts of an episode. Conventions are as in figure 13.7.

nondominant left hand. The signer holds the left hand in sign space while returning to the action of the boy looking down LOOK-DOWN(2). The second utterance of LOOK-DOWN is understood as an anaphoric reference to the boy. The two parts of the episode overlap in the time frame but also in their articulation between the two sign spaces. The black arrow indicates the passage of narrative time over the gloss.

As well as combining the FRS and SRS simultaneously, adult signers often show the temporal flow of episodes sequentially through re-peating different subparts. In this way the episode time moves back-ward. The completion of the first activity is not shown until the second referent is mentioned (Engberg-Pedersen, 2003; Morgan, 1999, 2002). This final discourse devise is akin to a ''flashback'' in cinematic terms. In figure 13.8, the first mention of the boy's fall through an entity clas-sifier ENTITY-FALL(1) in the FRS was held in the air momentarily before the role shift to the dog in the SRS. The second fall, ENTITY-FALL(2), is articulated completely.

During these types of signing it is common to see adult signer's pay great attention to their conversation partner's uptake of the message (i.e., they look at their conversation partner more than in other parts of the narrative).

The Development of Episode Sequencing in English

In hearing children's English narrative development, the overlapping of episode time through the use of ''while'' appears only after the asso-ciated concept of sequentiality and its markers, such as ''then,'' ''and,'' or ''next'' (Bamberg, 1986; Costermans & Bestgen, 1991):

(13.4) ''The boy fell-out and the bees were flying after the dog.'' (5-year-old, from Wigglesworth, 1997, p. 295)

This is thought to be because tracking more than one character in the same episode is more cognitively demanding in a narrative task (Aksu-Koç & von Stutterheim, 1994; Chen, 2002; Silva, 1991). Switching be-tween characters influences the continuity of the narrative both at the episode level and the overall plot level. It is the ability to manage both

these types of narrative time that identifies the mature user of a lan-guage. In older children, more detail is provided for each part of the episode but combining the two different subepisodes is still rare before 8 years:

(13.5) ''The dog's sitting down, and he finds the beehive, and he's looking at it, and the boy's looking through a hole, and then he goes to the branch, and the dog is sitting down.'' (6-year-old, from Wigglesworth, 1997, p. 298)

In the next stage of development children become more able to move back and forward between the two parts of the episode and attempt to embed the actions of the characters in one overlapped time. However, even 10-year-olds find it difficult to organize the sequence of events in a way that allows an overlapped interpretation of the different parts of the episode while at the same time not disturbing the overarching flow of the plot:

(13.6) ''. . . and the boy looked down a hole, and a beaver came out, and the dog was shaking the tree where the beehive was, and he made the beehive fall, and the boy was looking in a tree . . . hole, and the owl, an owl came out and pushed him down.'' (10-year-old, from Wigglesworth, 1997, p. 294)

The Development of Episode Sequencing in BSL

There are obvious differences between English and BSL in the form of the linguistic devices at narrators' disposal for organizing sequences of events in complicated narrative episodes. Despite these differences, mastery of this narrative skill poses a very similar problem for children developing BSL and, across children of different ages, presents clear developmental trends.

There have been few studies of children's development of this as-pect of signed language narrative (Engberg-Pedersen, 2003; Morgan, 2002). In Morgan (2002), narratives produced by the same children and adults as described in the preceding section were analyzed for the use of the FRS and SRS. In the youngest children's narratives (4–6 years of age), the owl and the beehive scene was retold as a sequence of actions with no attempt to overlap or encode the simultaneity of the different parts of the episode. Typical examples from two children ages 5;6 and 5;7 are shown in English translations in examples 13.7 and 13.8, respectively. In both examples, only the dog's actions are referred to.

(13.7) ''The dog is walking along and he sees a tree fall, and the bees are coming out of the hive, the dog is biting and pushing at the bee hive, it falls down and they try to catch the dog.''

(13.8) "The dog sees a tree with something hanging on the branch of the tree, the dog pushes at the tree which sways back and forward, the hive moves and falls off onto the ground and breaks, really gets squashed, the bees come flying out, the dog is scared and runs away."

The difficult task of overlapping the two parts of the episode means the youngest children focus on only one of the two parts of the beehive and owl event. This parallels findings on same age children's abilities in constructing spoken language narratives, for example, Aksu-Koç (1994). The difficulty in sequencing co-occurring events at this age appears therefore to be a general developmental issue, which includes children acquiring a signed language. When telling stories children at this age use many of the linguistic devices available in BSL for person reference, for example, entity classifiers, pronouns, verb inflections, and role shift, but all at the sentential level. They do not link these devices across their narratives.

In the narratives of the 7–10-year-old children, there continued to be a sequential description of the two parts of the scene, although by this age the children were able to include both characters involved in the episodes and switch between them. As the conversation partner finds out about what happened to the boy, the dog's actions (pushing at the hive) are not recounted. When we return to the dog, we see his actions not from where we left him, but from further into the narrative. This is seen in example 13.9 from a child age 7;8, again translated from BSL into English.

(13.9) "So over there the dog is walking and there is a hive and bees are coming out; the mouse, the man, I mean the boy, is looking into the hole on the tree; yes looking into the hole; an owl comes flying out which scares the boy; the dog runs past; the bees are following him."

The combination of the FRS and SRS and the "flashback" devices first appeared in the BSL narratives of the oldest children (11–13 years). An example from a child 11;10 of age of the "flashback" device is shown in example 13.10. The two repeated events are italicized in the translation.

(13.10) "Well, he climbs up and is looking into the hole; all of a sudden *he falls back* from the tree; in the hole there is an owl flapping away. The dog later on is over by the hive which has fallen from the branch on the tree and the bees are angrily coming out of the hive; the dog runs right through there, being chased by the swarm of bees who are colliding with him and stinging him. *The boy lands on the ground* and carries on walking, calling 'where is my dog?'"

DOG RUN PASS CL-G-DOG-RUN #SEE BOY CL-FALL
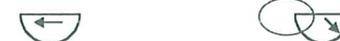
PAIN HURT-BOTTOM

'…suddenly the dog runs past seeing the boy falling onto the ground "ouch that was painful on the bottom"…'

Figure 13-9. Overlapping sign spaces to recount the activities of the boy and dog simultaneously. Conventions are as in figure 13.7.

In another example from a child age 13;4, the simultaneous movement of the running dog and the falling boy are shown through several sequences of overlapped sign space, as shown in figure 13.9. The utterance begins with the noun-phrase reintroduction DOG and an entity classifier showing the direction of the animal as it runs, the 13-year-old signer then indicates that the dog sees the boy falling, at the same time the signer in role shift depicts the perspective of the dog running past the falling boy. The role shift to show the dog's perspective in the SRS is articulated simultaneously with an entity classifier in the FRS to show the trajectory of the boy falling. Finally, the 13-year-old switches to show the boy's constructed action during his fall through role shift in the SRS. An attempt to capture the complexity of this string of utterances is given in a sign gloss in figure 13.9. The part of the example where the 13-year-old describes the running dog through role shift, watching the falling boy, is shown by overlapping the semicircles (SRS) and ovals (FRS) in the gloss.

One of the reasons only the oldest children manage this aspect of sign narrative has to do with the cognitive demands of recounting a sequence of events involving the tracking of more than one character. In narrative, children have to remember and sequence the whole narrative plot as well as get the particular sequence of events in the right order. This information processing load explains the youngest children's preference for omitting one of the character's actions and the middle group of children (7–10 years) rigidly sticking to a sequential rather than simultaneous sequencing of this parts of the episode. These simplification strategies presumably reduce the cognitive demands.

The sequencing of episodes in signed narrative involves overlaying perspectives through the FRS and SRS articulated both simultaneously and sequentially. The signing strategies needed to recount narratives

with complicated sequences of episodes, requires children to interactively create (through negotiation with their conversation partner) a rich textured set of perspectives on an event (Aarons & Morgan, 2003). Although not described in detail here, the younger children often fail while narrating to indicate how to interpret the switches they make between the FRS and SRS. They frequently tell the whole of this part of the narrative without looking once at their conversation partner. This in contrast was achieved by the adult narrators looking frequently to their conversation partner (Morgan, 2002).

FURTHER DEVELOPMENT OF NARRATIVE-BASED LANGUAGE SKILLS

Summarizing the reviewed research on BSL narrative development and the pragmatic control of reference and episode sequencing, it seems that children can have mastery of linguistic devices at the level of individual sentences but continue to have great difficulty using these same forms in appropriate (adultlike) ways when they are recruited for narrative. The main reasons for this stems from the development of the pragmatic awareness of the functions of reference, that is, telling a story for another, and also the child's still developing cognitive abilities in handling large stretches of information "online." The studies reviewed in this chapter point toward similar underlying patterns of development in English and BSL, which is interesting in itself when considering the major typological differences between signed and spoken languages. Despite these similarities, there are some major differences in narrative development and later uses of extended language between the two modalities that need to be discussed further.

It is often assumed in the literature on spoken language development that the development of extended uses of language is greatly influenced by the child's emerging literacy (e.g., Bamberg, 1986; Berman & Verhoeven, 2002; Gillam & Johnston, 1985). What is more it is also claimed that literacy has an effect on not only language use but on thinking itself (e.g., Olson, 1994). It is often argued (Bamberg, 1986; Berman & Verhoeven, 2002) that this influence is because becoming literate involves developing metalinguistic awareness.

Metalinguistic awareness allows the child to focus on and reflect on language as a "decontextualized object." Decontextualized language is characterized by the fact that the speaker and listener do not directly share the experience being communicated. Expanding literacy affects the child's skill in creating cohesive decontextualized language in both spoken and written modes. The uses of "oral" (as in not written but spoken or signed) language skills in school revolve around constructing complex texts with a heavy bias from written language organization (e.g., answering questions, debating, arguing, describing routines).

Taking these factors into account it would seem important to understand how extended uses of sign language could develop fully, if deaf children have less success in developing age-appropriate print literacy skills. In the typical scenario, literacy in a given language grows out of the child's abilities in spoken language skills in the same language. Because there is no agreed upon written version of BSL, many deaf children have less of an understandable mapping between the first language (e.g., BSL) and the written version of a different language (e.g., English).

These two factors are closely linked through feedback with each other. The full development of extended language use is influenced by literacy skills and literacy skills are themselves built on previous abilities in the same language in the "oral" mode. For the full-extended uses of signed language to develop (e.g., using BSL to describe the sequence of steps when carrying out an experiment in laboratory chemistry), further learning about discourse construction may have to come from literacy-based activities. Currently, it is not clear how literacy skills in signed or written language impact on the development of extended uses of signed language development. The transfer between BSL literacy skills (e.g., narrative) and English literacy skills may happen in both directions. BSL could facilitate the start of English literacy, but later English literacy would influence the further development of BSL narrative skills. In this concluding section, two issues are mapped out for further research: (a) transfer of first language skills into the start of literacy and (b) the continued development of extended signed language skills through the influence of literacy (in signed and spoken language)

Transfer

There is much work describing deaf children's development of literacy as a difficult process (Allen, 1992) but not impossible (Mayberry, 1992; Mayberry & Chamberlain, 1994). What counts as literacy in these studies is not always clear; for example, is it the reading of single words and sentences or the writing of extended expositions? It emerges that deaf children with more first language abilities generally do better at developing English literacy. Presumably, this is because they are coming from a "position of strength" (Hoffmeister, 2000) although exactly how first language abilities in American Sign Language facilitate English literacy is not well understood (Mayberry, 1992; Singleton, Supalla, & Schley, 1998).

Although there are some perspectives that propose no useful transfer of sign abilities to written English development (e.g., C. Mayer & Wells, 1996), many more studies propose that underlying skills *will* transfer from extended signed language abilities to English literacy development. Lichtenstein (1998) argued that working memory and metalinguistic knowledge are important in learning to read for deaf

children. Knowing how to construct a good, long and interesting narrative in BSL, in part, involves knowledge of the pragmatic dependencies that license the use of certain reference forms over others.

From the research reviewed above, it was concluded that the hierarchy of explicitness for forms and functions is organized similarly for BSL and English. This means that referential forms that pick out characters unambiguously are used mainly for introductions in narrative across both BSL and English. Similarly reference forms with low explicitness on the hierarchy (e.g., zero forms or role shift) are also chosen for the same functions (referential maintenance) across the two languages. It follows then that children with good narrative skills in sign therefore have the necessary underlying pragmatic and cognitive abilities to be able to understand and produce written narratives. This will follow if, and this is a big if, the written language code is clearly understood.

If there are shared processes underlying both BSL and English narrative production then transfer from first language to second is possible Strong & Prinz (2000). It would seem important therefore to ensure that a deaf child has exposure to examples of extended uses of BSL (e.g., debate, theater, explanation of scientific reasoning) in enough quantities and from fluent adult models. This will provide the child with the opportunity to develop potential cognitive flexibility and metalinguistic abilities in order to facilitate the development of English literacy skills.

Continued Development of Extended Uses of Signed Language

In order to promote the full development of extended signed language abilities and facilitate the transfer of potential common underlying abilities between the languages it is important to work on special narrative-based classroom practices within "bi-bi" (bilingual bicultural) programs (e.g., Hoffmeister, 2000; Kuntze, 1998, 2000; Mashie, 1995). Progress in this area can benefit from signed language research. There is a growing literature on the analysis of signed language texts (Bahan & Supalla, 1995; Gee & Kegl, 1983). More is being found out about the linguistic structures inherent in different genres of extended sign language use, for example, formal lectures, theater, jokes, frozen texts, anecdotes, and poetry (Valli, 1987). There are narrative assessment batteries for children under development (Herman et al., 2004). There is even some developmental work on the use of written signed language (Gangel-Vasquez, 1997). On the negative side, however, it has still not been demonstrated that signed language literacy skills (abilities in producing extended narrative texts) are useful for developing English written language skills.

If children are to see how their skills in signed narration transfer to written narratives in English, comparative narrative devices need to be taught explicitly to children by 6 or 7 years of age, once they have

some sign language narrative skills and some knowledge about how the written English code works (e.g., Bailes, 1999, 2001). Explicit narrative analysis tasks involve children analyzing video recordings of BSL narratives and carrying out text analysis of written English narratives. This is followed by activities focusing on translation between languages.

Bialystock (1991) argued that there are three stages in children's development of literacy: (a) the "oral"/conversational stage, (b) a learning to read stage, and (c) a metalinguistic stage where children learn how to manipulate language. It is this third stage that is important to stimulate so that transfer skills between BSL and English can take place. Deaf children's metalinguistic knowledge of BSL has to be stimulated through focused BSL literacy classes. In this way, teachers can begin to point out the relationships between how narrative is BSL and English are differently organized. Contrastive narrative analysis classes would build on previous translation/decoding skills learned from initial reading classes. Contrastive text analysis is currently used in signed language interpreter training programs for hearing adults but is not in wide use in schools. Some research on comparative narrative analysis in schools has already suggested practical pedagogic strategies (e.g., Kuntze, 2000; Mather & Thibeault, 2000).

Currently, the educational system is asking deaf children to become bilingual users of extended texts but is not always providing the necessary metalinguistic skills with which to facilitate this movement to bilingualism. There is a lost opportunity here. Potentially, skills in written English such as constructing narratives, theater, and poetry could benefit greatly from properly informed deaf bilingual writers bringing another perspective into their English writing from BSL in a creative and truly bilingual way.

REFERENCES

Aarons, D., & Morgan, R. (2003). Classifier predicates and the creation of multiple perspectives in South African Sign Language. *Sign Language Studies, 3,* 125–156.

Aksu-Koç, A. (1994). Development of linguistic forms: Turkish. In R. Berman & D. Slobin (Eds.), *Different ways of relating events in narrative: a crosslinguistic developmental study* (pp. 159–167). Hillsdale, NJ: Lawrence Erlbaum.

Aksu-Koç, A., & von Stutterheim, C. (1994). Temporal relations in narrative: Simultaneity. In R. Berman & D. Slobin (Eds.), *Different ways of relating events in narrative: a crosslinguistic developmental study* (pp. 393–455). Hillsdale, NJ: Lawrence Erlbaum.

Allen, T. (1992). Subgroup differences in educational placement for Deaf and hard of hearing students. *America Annals of the Deaf, 137,* 331–388.

Applebee, A. (1978). *The child's concept of story.* Chicago: University of Chicago Press.

Bahan, B., & Supalla. S. (1995). Line segmentation and narrative structure: A study of eyegaze behavior in American Sign Language. In K. Emmorey & J. Reilly (Eds.), *Language, gesture, and space* (pp. 171–191). Hillsdale, NJ: Lawrence Erlbaum.

Bailes, C. N. (1999). *Primary-grade teachers' strategic use of American Sign Language in teaching English literacy in a bilingual school setting.* Ph.D. dissertation, University of Maryland: College Park.

Bailes, C. N. (2001). Integrative ASL-English language arts: Bridging paths to literacy. *Sign Language Studies, 1*(2), 147–174.

Baker, A. E., van den Bogaerde, B., Coerts, J., & Woll, B. (1999, November). *Methods and procedures in sign language acquisition studies.* Paper presented at the Fourth Intersign Workshop, London.

Bamberg, M. (1986). A functional approach to the acquisition of anaphoric relationships. *Linguistics, 24,* 227–284.

Berman, R. (1988). On the ability to relate events in narrative discourse processes *11,* 468–497.

Berman, R., & Slobin, D. (1994). *Different ways of relating events in narrative: A cross-linguistic developmental study.* Hillsdale, NJ: Lawrence Erlbaum.

Berman, R., & Verhoeven, L. (Eds.). (2002). Cross-linguistic perspectives on the development of text-production abilities in speech and writing [Special issue]. *Written Language and Literacy, 5*(2).

Bialystock, E. (Ed.). (1991). *Language processing in bilingual children.* Cambridge: Cambridge University Press.

Botting, N. (2002). Narrative as a tool for the assessment of linguistic and pragmatic impairments. *Child Language Teaching and Therapy. 18,* 1–22.

Brice-Heath, S. (1983). *Ways with words: Language, life, and work in communities and classrooms.* New York: McGraw-Hill, Oxford University Press.

Chen, J. (2002). *Mandarin and English-speaking children's expression of temporality.* Doctoral dissertation, University of Manchester.

Costermans, J., & Bestgen, Y. (1991). The role of temporal markers in the segmentation of narrative discourse. *Cahiers de Psychologie Cognitive, 11*(3), 49–70.

Debaryshe, B. (1995). Maternal belief systems: Linchpin in the home reading process. *Journal of Applied Developmental Psychology, 16,* 1–20.

Eaton, J., Collis, G., & Lewis, V. (1999). Evaluative explanations in children's narratives of a video sequence without dialogue. *Journal of Child Language, 26,* 699–720.

Eisenberg, A. R. (1985). Learning to describe past experiences in conversation. *Discourse Processes, 8,* 177–204.

Emmorey, K. (2003). *Perspectives on classifier constructions in sign language.* Mahwah, NJ: Lawrence Erlbaum.

Emmorey, K., & Reilly, J. (1998). The development of quotation and reported action: Conveying perspective in ASL. In E. Clark (Ed.), *The Proceedings of the Twenty-ninth Annual Child Language Research Forum* (pp. 81–90). Stanford, CA: CSLI Publications.

Emmorey, K., & Falgier, B. (1999). Talking about space with space: Describing environments in ASL. In E. A. Winston (Ed.), *Story telling and conversations: Discourse in Deaf communities* (pp. 3–26). Washington, DC: Gallaudet University Press.

Engberg-Pedersen, E. (1995). Point of view expressed through shifters. In K. Emmorey & J. Reilly (Eds.), *Language, gesture and space* (pp. 133–154). Cambridge: Lawrence Erlbaum.

Engberg-Pedersen, E. (2003). How composite is a fall? Adults' and children's descriptions of different types of falls in Danish Sign Language. In K. Emmorey (Ed.), *Perspectives on classifier constructions in sign language* (pp. 311–332). Mahwah, NJ: Erlbaum.

Gangel-Vasquez, J. (1997). *Literacy in Nicaraguan Sign Language: Assessing word recognition skills at the Escuelita de Bluefields.* Unpublished master's thesis, California State University. Dominguez Hills.

Gee, J., & Kegl, J. (1983). Narrative/story structure, pausing and American Sign Language. *Discourse Processes, 6,* 243–258.

Gillam, R., & Johnston, J. R. (1985). Development of print awareness in language-disordered preschoolers. *Journal of Speech and Hearing Research, 2*(8), 521–526.

Givón, T. (1983). *Topic continuity in discourse: An introduction.* Philadelphia: Benjamins.

Herman, R. (2003). *The development of a British Sign Language assessment battery.* Unpublished doctoral dissertation, City University London.

Herman, R., Grove, N., Holmes, S., Morgan, G., Sutherland, H. & Woll, B. (2004). *Assessing BSL development: Production Test (Narrative Skills).* London: City University Press.

Hoffmeister, R. (2000). A piece of the puzzle: ASL and reading comprehension in deaf children. In C. Chamberlain, J. Morford, & R. Mayberry (Eds.), *Language acquisition by eye* (pp. 143–163). Mahwah, NJ: Erlbaum.

Hudson, J. A., & Shapiro, C. R. (1991). From knowing to telling: The development of children's scripts, stories and personal narratives. In A. McCabe & C. Peterson (Eds.), *Developing narrative structure* (pp. 89–136). Hillsdale, NJ: Lawrence Erlbaum.

Kemper, S. (1984). The development of narrative skills: Explanations and entertainments. In S. Kuczaj (Ed.), *Discourse development: Progress in cognitive development research* (pp. 99–122). New York: Springer-Verlag.

Kuntze, M. (1998). Literacy and Deaf children: The language question. *Topics in Language Disorders, 18*(4), 1–15.

Kuntze, M. (2000). Codeswitching in ASL and written-English language contact. In K. Emmorey & H. Lane (Eds.), *Signs of language revisited: An anthology to honor Ursula Bellugi and Edward Klima* (pp. 287–302). Mahwah, NJ: Lawrence Erlbaum.

Lichtenstein, E. (1998). Reading in deaf children. *Journal of Deaf Studies, 3,* 1–55.

Lillo-Martin, D. (2002). Where are all the modality effects? In R. P. Meier, K. Cormier, & D. Quinto-Pozos (Eds.), *Modality and structure in signed and spoken language* (pp. 241–262). Cambridge: Cambridge University Press.

Loew, R. (1984). *Roles and reference in American Sign Language: A developmental perspective.* Unpublished doctoral dissertation, University of Minnesota. Rochester.

Mashie, S. (1995). *Educating deaf children bilingually.* Washington, DC: Gallaudet University, Pre-College Programs.

Mather, S., & Thibeault, A. (2000). Creating an involvement-focused style in book reading with deaf and hard of hearing students: The visual way. In

C. Chamberlain, J. Morford, & R. Mayberry (Eds.), *Language acquisition by eye* (pp. 191–219). Mahwah, NJ: Erlbaum.

Mayberry, R. (1992). The cognitive development of deaf children: recent insights. In S. Segalowitz & I. Rapin (Eds.), *Handbook of Neuropsychology* (Vol. 7, pp. 51–68). Oxford: Elsevier.

Mayberry, R., & Chamberlain, C. (1994, November). *How ya gonna read the language ifya don't speak it? Reading comprehension in relation to sign language comprehension.* Paper presented at the 19th Annual Conference on Language Development, Boston, MA.

Mayer, C., & Wells, G. (1996). Can the linguistic interdependence hypothesis theory support a bilingual-bicultural model of literacy education for deaf students? *Journal of Deaf Studies and Deaf Education, 1*(2), 93–107.

Mayer, M. (1969). *Frog where are you?* New York: Dial Press.

McCabe, A., & Peterson, C. (1990). What makes a narrative memorable? *Applied Psycholinguistics, 8*, 73–82.

Metzger, M. (1994). Constructed dialogue and constructed action in American Sign Language. In C. Lucas. (Ed.), *Sociolinguistics in Deaf communities* (pp. 255–271). Washington, DC: Galaudet University Press.

Miller, C. (1994). Simultaneous constructions and complex signs in Quebec Sign Language. in I. Ahlgren, B. Berman & M. Brennan (Eds.), *Perspectives on sign language usage* (pp. 131–148). Durham, UK: ISLA Press.

Morgan, G. (1998). *The development of discourse cohesion in British Sign Language.* Unpublished doctoral dissertation, University of Bristol.

Morgan, G. (1999). Event packaging in BSL discourse. In E. Winston (Ed.), *Story telling and conversation: discourse in Deaf communities* (pp. 27–58). Washington, DC: Galluadet Press.

Morgan, G. (2000). Discourse cohesion in sign and speech. *International Journal of Bilingualism, 4*, 279–300.

Morgan, G. (2002). The encoding of simultaneity in children's BSL narratives. *Journal of Sign Language and Linguistics, 5*(2), 127–161.

Morgan, G., & Woll, B. (2003). The development of reference switching encoded through body classifiers in British Sign Language. In K. Emmorey (Ed.), *Perspectives on classifier constructions in sign languages* (pp. 297–310). Mahwah, NJ: Lawrence Erlbaum.

Olson, D. R. (1994). *The world on paper: The conceptual and cognitive implications of writing and reading.* Cambridge: Cambridge University Press.

Peterson, C., Jesso, B., & McCabe, A. (1999). Encouraging narratives in preschoolers: An intervention study. *Journal of Child Language, 26*, 49–67.

Roy, C. (1989). Features of discourse in an American Sign Language lecture. In C. Lucas (Ed.), *The sociolinguistics of the Deaf community* (pp. 231–252). San Diego: Academic Press.

Silva, M. (1991). Simultaneity in children's narratives: the case of when, while and as. *Journal of Child Language, 18*, 641–662.

Singleton, J., Supalla, S., & Schley, S. (1998). From sign to word: Considering modality constraints in ASL/English bilingual education. *Topics in Language Disorders 18*, 16–29.

Slobin, D. (1996). From "thought to language" to "thinking for speaking." In J. Gumperz & S. Levinson (Eds.), *Studies in the social and cultural foundations*

of Language: Vol. 17. Rethinking linguistic relativity (pp. 70–86). Cambridge: Cambridge University Press.

Sperber, D., & Wilson, D. (1995). *Relevance: Communication and cognition*(2nd ed.). Oxford: Blackwell.

Strong, M., & Prinz, P. (2000). Is American Sign Language skill related to English literacy? In C. Chamberlain, J. P. Morford, & R. Mayberry (Eds.), *Language acquisition by eye* (pp. 131–142). Mahwah, NJ: Lawrence Erlbaum.

Supalla, T. (1990). Serial verbs of motion in ASL. In S. Fischer & P. Siple (Eds.), *Theoretical issues in sign language research: Vol. 1. Linguistics* (pp. 127–152). Chicago: University of Chicago Press.

Sutton-Spence, R., & Woll, B. (1999). *The Linguistics of BSL: an introduction.* Cambridge: Cambridge University Press.

Valli, C. (1987). The nature of a line in ASL poetry. In W. Edmondson & F. Karlsson (Eds.), *International studies on sign language and communication of the Deaf* (Vol. 10, pp. 171–182), Hamburg: Signum.

van Hoek, K., Norman, F., & O'Grady-Batch, L. (1987). *Development of spatial and non-spatial referential cohesion.* Working paper, Salk institute.

Westby, C. (1998). Assessing and Facilitating test comprehension problems. In H. Catts & A. Kahmi (Eds.), *Language and reading disabilities* (pp. 154–222). Boston: Allyn & Bacon.

Wigglesworth, G. (1997). Children's individual approaches to the organization of narrative. *Journal of Child Language, 24*, 279–309.

Winston, E. (1995). Spatial mapping in comparative discourse frames. In K. Emmorey & J. Reilly (Eds.), *Language, gesture and space* (pp. 87–114). Cambridge: Lawrence Erlbaum.