



Assessment of Preschool Narrative Skills

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The assessment of discourse skills in young children is an important responsibility facing clinicians today. Early identification of problems in discourse skills and, more specifically, narrative abilities is especially important for identifying children at risk for later learning and literacy-related difficulties. Despite this, few tools are available for assessing narrative skills in preschoolers. In this article we provide informa-

tion concerning preschool narrative development in typically developing, North American, Caucasian, English-speaking children. Methods are suggested for assessing narrative skill of children with language impairment and children developing language normally. Transcripts of narratives from these children are presented, along with specific recommendations for evaluating these narratives.

Like a French braid, language development comprises multiple strands, including phonology, semantics, syntax and morphology, and discourse, all of which must intertwine for literacy to emerge (McCabe, 1992). The relationship is such that delays in development of any of the language strands may have detrimental effects on learning to read. In fact, studies of children with language disabilities have found impairments in each strand to be linked to reading problems. Furthermore, prognosis for eventual language and literacy functioning depends on the particular aspect of language affected. Phonological problems, for example, are most likely to have minimal lasting impact (Bishop & Edmundson, 1987).

In contrast, narrative discourse development has strong implications for emergent literacy in preschool children (Dickinson & McCabe, 1991). The ability to tell a coherent narrative predates and predicts successful adaptation to school literacy (e.g., Feagans, 1982). Because early intervention to prevent learning disability is predicated on early assessment of language-related literacy problems, narrative assessment holds promise in this regard. At present, however, few systematic protocols tied to good developmental research on narrative are available to accomplish this assessment.

Information about preschool narration is relatively new and has received much less attention than, for example, the link between difficulties in phonological awareness and emergent literacy. The purposes of this article are (a) to

document the importance of oral narrative ability for achieving full literacy; (b) to discuss normal narrative development, presenting age norms; (c) to describe assessment procedures that are mindful of cultural differences and appropriate for preschool and early elementary school-age children; (d) to distinguish normal individual differences from individual differences due to deficits; and (e) to touch briefly on the therapeutic implications of our assessment procedure.

Links Between Preschool Narration and Literacy Acquisition

It now appears that it may be possible to identify children at risk for language-based reading problems in the early phase of language acquisition. Children who develop reading disability in grade 2 have been found to be deficient in the length, syntactic complexity, and pronunciation accuracy of their spoken language at age 2:6 (Scarborough, 1990). Narrative was not assessed in these children perhaps because no developmentally appropriate narrative assessment device was available, a constraint we seek to redress in this article.

Cross-sectional studies of older children who are readers with dyslexia have identified a number of discourse-level deficits. Readers with disabilities have been found deficient in tasks that tap oral skills, such as the ability to recall highly familiar sequences of events (Feagans & Short, 1984), directions (Feagans & Short,

1986), and narratives (Graybeal, 1981; Weaver & Dickinson, 1982). Deficits have been found in the ability to construct narratives as well (Roth & Spekman, 1986). Children with dyslexia seem to have problems—not necessarily in constructing sentences, but rather in connecting sentences using conjunctions. When asked to recall stories, they tend to omit causal and temporal links (Liles, 1985; Roth & Spekman, 1986; Weaver & Dickinson, 1982) and to provide fewer of the important details of stories that are likely to be tested in schools (Graybeal, 1981; Griffith, Ripich, & Dastoli, 1986; Hansen, 1978; Johnston, 1982; Levi, Musatti, Piredda, & Sechi, 1984; Roth & Spekman, 1986; Weaver & Dickinson, 1982). In general, oral narrative performance predicts literacy achievement (Feagans, 1982; Michaels, 1981).

Discourse-level difficulties associated with reading problems have been found at least as early as kindergarten age. Children's ability to tell a complete version of the Three Bears predicts later reading success (de Hirsch, Janksy, & Langford, 1966). Cross-sectional work also finds a strong relationship between narrative comprehension among kindergartners and other measures of early literacy, such as the ability to define words, phonemic awareness, and early print skills (Dickinson & Snow, 1987). Deficiencies in discourse skills linked to reading have been found prior to age 5 years. One longitudinal study followed 87 children with language impairments and children developing language normally from age 4 to 5:6 years and found that the ability to recall a short story was the best predictor of language development (Bishop & Edmundson, 1987).

Normal Discourse Development

The most prominent aspect of language acquisition during early elementary-school years is the development of extended discourse (Karmiloff-Smith, 1986). The onset of this process is much earlier, beginning only a few months after sentences are first formed. At about 22 months (Eisenberg, 1985; Sachs, 1982), children begin to refer to real past events, at first with much assistance from adults. At 2 years, their narratives often concern negative past events, especially injuries (Miller & Sperry, 1988). Even when they produce fantasy stories, children aged 2–5 years

are preoccupied with themes of aggression, death, hurt, or misfortune (Ames, 1966; Pitcher & Prelinger, 1963). Between 3 and 5 years of age, children tell each other longer and more complex personal narratives, and increasingly respond to narratives from peers (Umiker-Sebeok, 1979).

Children tell each other many forms of narrative (personal anecdotes, parodies, film retellings, fantasies), but more than half of their conversational narratives concern real personal experiences (Preece, 1987). McCabe and her colleagues (McCabe & Peterson, 1991a; Peterson & McCabe, 1983) have analyzed personal event narratives of young children using high point analysis to describe the developmental sequence of the narrative macrostructure (see Table 1). At 3 1/2 years children generally combined only two events even in their longest narratives, resulting in what is called the Two-Event Narrative. By 4, children's narratives tend to consist of more than two events that occurred on one occasion, but they narrate the events out of sequence in what is called a Leap-Frog Narrative. Children who use Leap-Frog Narratives also often omit some events necessary for the listener to make sense of their personal narratives. By age 5, however, children rarely have trouble sequencing events in oral narratives. Five-year-olds do, nonetheless, tend to end their personal narratives prematurely, dwelling on a climactic event at the end of their narration in what is called an End-at-High-Point Narrative. Six-year-olds tell a well-formed story that orients a listener to who, what, and where something happened, narrates a sequence of events that builds to some sort of climax or high point, and then goes on to resolve itself by telling how things turned out. That is, children age 6 and older use what is called a Classic Narrative.

Although there is a developmental sequence of narrative macrostructure from Two-Event to Leap-Frog to End-at-High-Point to Classic Narrative structure, not all personal event narratives fall along the developmental continuum. On the contrary, Chronological Narratives are produced by children and adults of all ages. These undeveloped stories are relatively unevaluated laundry lists of actions, much like the stereotypical adult slide show narrative. For example, one 4-year-old girl responded to our question, "Have you ever been to the zoo?" with the following Chronological Narrative: "Yeah, before, I, and we saw

TABLE 1. Results of McCabe and Peterson's high-point analysis for normally developing North American, Caucasian, English-speaking children: The percentage of structural types at each age. Ten children were assessed at age 3 1/2 (McCabe, in press), and 16 children at each of the other age groups (Peterson & McCabe, 1983).

Age in Years	Two-Event	Leap-Frog	End at High Point	Classic	Chronology [†]	Misc. [‡]
3:6	63.3 [†]	10	3	3	20	
4	15	29 [†]	2	12	23	18
5	10	4	29 [†]	21	25	10
6	10	6	23	35 [†]	15	10
7	2	0	17	48 [†]	25	8
8	0	0	17	62 [†]	21	0
9	6	0	17	58 [†]	13	6

[†] Most common structure produced by children at each age.

[‡] Narrative type found at all ages.

gorillas, *scary* ones. And I was afraid. They had a swing set up higher. But I don't know if they swing on it. And I saw a monkey too, and a lion." The hallmark of this kind of narrative is that children (and adults) do not select some part of an overall event on which to focus and provide details. Sometimes this kind of narrative seems to reflect a relative lack of excitement about a topic.

Preschool children are more able to structure their oral personal narratives in a sophisticated way than to structure general scripts of personal experience or fictional stories (Hudson & Shapiro, 1991), although this comparative advantage of fact over fiction in terms of structural sophistication does not apply to the story-writing of older school-aged children (Freedman, 1987), perhaps as a result of increased exposure to fictional stories from books. In spontaneously told fantasy stories, the plots of children between the ages of 7 and 9 approximate those of fairy tales (Botvin & Sutton-Smith, 1977; Hudson & Shapiro, 1991).

It should be emphasized that the developmental sequence described here is that found in the personal event narratives of young, North American, Caucasian, English-speaking children. This type of narrative was chosen because it shows the clearest developmental progression during the preschool years. Variations expected for children from diverse cultures are discussed later.

Current Assessments of Narrative Skill

Formally and informally, both in research and in clinical practice, the construction of fictional stories is the primary genre employed at present to assess the narrative skills of children at risk for language problems. As we have noted, however, such a narrative task is inappropriate for preschool children.

Formal Assessments

Unfortunately, existing formal tests of narrative skill do not contain normative data for preschool-aged children, yet it would be desirable to assess problems with narrative discourse as an *early* indication of later reading problems. At present, clinicians are unable to assess reading problems until children start to read and experience failure. Children aged 6:6 years and above might be assessed using either the Story Construction subtest of the Detroit Test of Learning Aptitude (DTLA-3; Hammill, 1991) or the Test of Word Finding in Discourse (TWF-D), recently developed by Diane German (German & Simon, 1991). In the DTLA-3 children are shown three pictures and asked to make up a story about each. The story is then scored for its conceptual, insightful, and coherent qualities. The TWF-D asks for three stories about three pictures, followed by probes to extend children's stories, including one that asks them to relate a personal experience about a carnival (German & Simon, 1991). These stories are then scored primarily for word-finding characteristics.

Informal Assessments

Informal clinical assessments of narrative skill have often followed research paradigms. Regrettably, research-

ers have also used fictional stories to assess the narrative skills of young children. Often researchers have scored children's productions or recollections for the extent to which these display story grammar structure, meaning the extent to which the stories open with setting information, and proceed to tell how some problem was precipitated and subsequently resolved. Ironically, researchers have established the fact that school-aged children with learning disabilities do not have problems with story grammar (Graybeal, 1981; Griffith, Ripich, & Dastoli, 1986; Hansen, 1978; Johnston, 1982; Jordan, Murdoch, & Buttsworth, 1991; McConaughy, 1985; Merritt & Liles, 1989; Ripich & Griffith, 1988; Roth & Spekman, 1986; Weaver & Dickinson, 1982). Stated differently, a number of published studies have found no differences in the narrative production of children with dyslexia, specific language impairment, and traumatic brain injuries. All such children seem cognitively competent in reporting problem-solving episodes. Some researchers (e.g., Jordan, Murdoch, & Buttsworth, 1991) have attributed their failure to find differences in the story grammar analysis of narratives produced by children with language impairment to mean that their narrative discourse skills are not impaired. This conclusion may be erroneous, however, because of the use of insensitive means of scoring narratives, as well as an inappropriate genre.

In addition to problems posed by genre and scoring systems, there may also be problems with elicitation procedures. That is, story retelling was used as a means of eliciting narratives in many of the studies above that found no differences between children who were achieving normally and children diagnosed as having specific language impairment or learning disabilities (e.g., Graybeal, 1981; Griffith, Ripich, & Dastoli, 1986; Hansen, 1978; McConaughy, 1985; Ripich & Griffith, 1988; Strong & Shaver, 1991; Weaver & Dickinson, 1982). When story retelling is compared to story generation in response to a picture by the same individuals, story retelling results in longer, more detailed productions, and productions that contain more frequent complete story grammar episodes (Liles, Coelho, Duffy, & Zalagens, 1989; Merritt & Liles, 1989). Children with and without language disorders often become confused and exhibit different word-finding difficulties as they generate stories around picture stimuli, so that reliable scoring is difficult. Thus, it is additionally problematic that currently available formal means of assessing narrative skill ask children to generate stories in response to pictures.

Narrative Problems in Children With Specific Language Impairments

Using a developmentally sensitive approach to analyze narrative macrostructure (which is described below), Miranda, McCabe, and Bliss (1993) found that 8- to 9-year-old children with specific language impairment do have substantial difficulty producing narratives. Although boys without language impairments deliver chronologically sequenced chains of actions, children with language impairments deliver what might be termed Leap-Frog

Narratives. That is, their narratives resemble those told by normally developing 4-year-old boys: either the narratives leap backward as well as forward in time, omit important events, insert unrelated scripts or events, or all of these. This means that listeners must do considerably more work to comprehend the stories they tell. Children with specific language impairments sometimes engage in a kind of pseudo-development of their narrative topics by departing from true narrative incidents to laundry lists of scripts given in future tense or nominally in the past tense. For example, during a narrative about taking the family dog to the vet, one child continued, in the same turn, to discuss what he had for lunch and then whom he kissed before he went to bed. Other children with specific language impairments generate happenings related to the discourse theme but do so in an attempt to cover up their inability to say more about a particular happening. Perhaps most confusing of all are those instances when such children haphazardly and for no explicit purpose narrate a seemingly unrelated happening intrusively in the midst of another happening. All these interminglings of seemingly unrelated events are forms of Leap-Frog narration.

High-Point Analysis: A Developmentally Sensitive Means of Assessing Narrative Skill

In order to assess the narrative skills of preschool children, the appropriate genre of storytelling must be elicited: personal narratives about real past events. This is the genre that preschool children naturally compose quite frequently in conversation with each other (e.g., Preece, 1987) as well as with parents (McCabe & Peterson, 1991b). Nonprofessional adults have provided evidence that high-point analysis is *valid*; that is, adults' judgments of the quality of children's personal narratives and their memory of those narratives are both related to high-point analysis (McCabe & Peterson, 1984, 1990a). *Reliability* of speech-language pathologists scoring high-point analysis

using the method we will present is estimated to be $\kappa = .90$ for 18 narratives, which represents "almost perfect" agreement (Landis & Koch, 1977). Thus, high-point analysis is both valid and reliable. In the next section, we discuss important aspects of eliciting personal narratives. In addition, a scoring procedure using a developmentally sensitive approach is described.

The Conversational Elicitation Procedure

The protocol for eliciting personal event narratives is as important in the assessment process as the narrative itself. The protocol suggested here is a conversational technique developed by Peterson and McCabe (1983), called the Conversational Map. Figure 1 is an example of a clinician eliciting a personal event narrative from a child using the conversational map. In addition to using this conversational map, clinicians must remember to: (a) use story prompts, (b) try to collect at least three narratives, (c) use relatively neutral subprompts in response to the child's answers, and (d) minimize the child's self-consciousness. The latter four points are crucial to narrative collection; a discussion of each follows.

Use a story prompt. In spontaneous interactions you have to tell a story to get a story. Almost everyone has experienced awkward silences in social situations. No one can think of a thing to say. However, the minute one person launches into a tale about locking keys in his or her car or leaving lights on in a parking lot, virtually all others in the group share a similar incident that happened to them.

The exact content of a story prompt is not important per se. What is important is that children are asked to talk about experiences that mean something to them. In general, children are likely to tell their best stories about being hurt or scared. These are experiences that almost all children have had but are significant enough to any particular child to be worth talking about.

Collect at least three narratives from each child. No matter what story prompt is used, no story appeals equally to all children. Not every child has been stung memorably, although most have. Hence, to increase the chances of reminding the child of something he or she really wants to talk about, it is essential that at least three brief anecdotal story prompts be told.¹

Unfortunately, adults routinely ask children to talk about things that tend to produce poor narratives, even from gifted narrators. One potentially unsuccessful probe is to ask a child about a recently acquired sibling. Also, professionals should avoid prompts about birthday parties, which yield scripts that amalgamate many past parties, not true narratives of specific, singular parties. Adults should

FIGURE 1. Conversation map for narratives of real experience.

1. Trip to doctor's office	PROPS: COUGH
<p>I went to the doctor's office the other day. I had to wait 3 hours to see him. There were twin brothers about 5 years old waiting too. They kept trying to read magazines. But every time one brother picked out a magazine, the other brother wanted to read the same magazine. They would start fighting, and their mother would take the magazine away from them. They went through the whole pile of magazines and didn't get to read any of them.</p> <p>- Do you have any brothers or sisters? (Follow child's answer with subprompts.)</p> <p>- Do they fight or argue?</p> <p>I'm still coughing from the cold I had (COUGH). When I finally got in to see the doctor, he gave me some pink pills that were about the size of a penny!</p> <p>- Have you ever been to the doctor's office or the hospital?</p> <p>When I go home, I have to visit my aunt who is in the hospital. She broke both of her legs and has to have them hooked up to some wires from the ceiling.</p> <p>- Have you ever visited anyone in the hospital?</p> <p>- Have you ever gotten hurt?</p>	

¹ Note that you can't give the same story prompt to the same child over and over again. In fact, children will resist telling you the same story twice. Evaluation over the course of treatment must be based on, for example, whether high points begin to appear in whatever narrative the child tells you rather than on whether the child inserts such a point into a narrative he or she has told you before. Perhaps the best way to document progress is to say that "Johnny will exhibit high point evaluation while delivering a narrative in 7/10 novel narratives."

also avoid prompts about trips, which tend to yield chronological accounts with little more coherence than a travel itinerary.

Occasionally children tell about an experience they have had when some relative, stranger, or pet died. These death narratives are structured differently from other kinds of narratives by children who are developing normally. Specifically, virtually no evaluation is used to describe deaths, and this lack is more pronounced the younger the child and the closer the child was to the person who died. Furthermore, even older children, who are otherwise fully capable of producing well-formed narratives, are likely to produce confusing, jumbled sequences in narrating events that led up to a death of a person or pet who was dear to them (Menig-Peterson & McCabe, 1977). Thus, narratives of deaths should not be used for clinical assessment of language problems.

Use relatively neutral subprompts in response to the child's answers. Narratives are constructed between two people; what is said in part determines what will be heard. Children are accustomed to telling stories to parents who respond to them freely. As professionals, when we elicit narratives from children, we need to respond too. One of the most important reasons for responding is that *no response is a response*. Children who meet with no response are likely to say very little. Some responses are less leading than others. That is, they encourage narration while not directing the narrative. Specifically, clinicians are encouraged to (a) repeat the exact words of the children

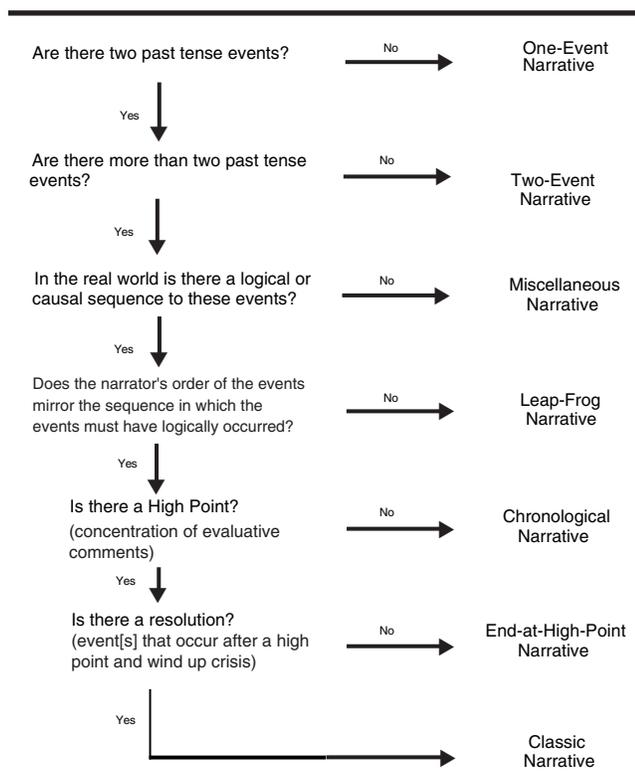
when they pause, (b) say "Uh-huh," (c) say "Tell me more," or (d) ask "Then what happened?" Clinicians may notice that these responses are relatively neutral, really just indications of interest in hearing whatever the child wants to say. This is quite deliberate on our part. Just as it is important to avoid too little response, it is also important to avoid saying too much, such as evaluating children's stories. The more adults do, the less chance there is to see what children can do on their own. Unfortunately, it is particularly difficult to restrain commentary when dealing with children who are having a hard time conveying their story. These are the very children who are most likely to have problems and need careful assessment. With practice, however, it becomes more natural to avoid overt commentary.

Minimize the child's self-consciousness. In order to collect narratives worth analyzing, it is critical that the focus be removed from the language and narrative exchange per se. A successful technique is to have the child draw a picture (Peterson & McCabe, 1983). This allows the clinician to become acquainted with the child and comes quite naturally at the beginning of an evaluation session.

Alternatively, during a hectic diagnostic session, conversational narratives could be collected during a break in more formal testing. Wherever placed, children say more if they do not see the interaction as a test.

Don't rush the child. It is important not to rush through the collection of personal event narratives. Even though they may be collected during breaks between more formal tests, narratives are an important part of the assessment procedure and care needs to be taken to allow the child time to communicate his or her message. These narratives from children are not test scores taken from a standardized battery. Instead, the stories are meaningful expressions of who the child is and what he or she has experienced. For many reasons, it is important to take time in listening to children's narratives.

FIGURE 2. Questions for scoring narrative structure. The North-American-Caucasian-English-speaking model.



Scoring

Select the longest narrative. McCabe & Peterson (1990b) found that the length of a narrative was a rough indicator of its complexity. Therefore, in order to obtain a fair estimate of the upper bounds of a child's performance, the longest narrative should be used for scoring. Occasionally the best narrative will not be the longest one; consequently, clinicians may want to score all narratives elicited and give the child credit for the best narrative structure produced. Length of a narrative should be determined by counting the number of lines in a transcription of it. If two or more narratives are close in terms of the number of lines, choose the one that has the most uninterrupted text and/or makes the most sense when you read it. Individuals may disagree about exactly where a narrative begins and ends, but this disagreement will not affect their assessment of overall structure. Finally, the narrator should have been present during the events narrated; occasionally, children will tell a story about something that happened when they were not present. These should not be used for assessment.

It should also be noted that identifying the beginning and ending of narratives will be more challenging for disordered narratives than for well-formed ones. In fact, the struggle to identify the boundaries of a narrative is one potential indicator of disordered narration.

Identify the narrative macrostructure. Figure 2 depicts a series of questions to be used for scoring narrative structure. You may notice that *yes* answers allow you to proceed to the next question; *no* answers result in the determination of the type of narrative structure displayed. For example, compare the following two narratives:^{2,3}

Narrative One (8-year-old girl)

E: Have you ever gotten jabbed by anything?

B: By a bee.

E: By a bee. Oh, tell me about it.

B: It got kind of cool one day and my grandma came. She called me and she wanted to know where Dennis was.

E: Where Dennis was?

B: Yeah, and I ran outside to tell her and I was running and I stepped on a bee.

E: You went outside to tell her and you were running and you stepped on a bee. Ah. Then what?

B: Nothing. I just went in the house and had to have something on it.

Narrative Two (5-year-old girl)

E: Have you ever gotten jabbed with anything?

L: Uh huh. I got jabbed with a bee.

E: By a bee. Oh, tell me about it.

L: See, I got jabbed on my foot. I was barefooted. I screamed and I screamed and I cried and I cried. I screamed and *I screamed*. Until my next door neighbor came out and my Dad came out and my brother came out. And, they *all* carried me into the house but after that happened I got to sleep overnight with my neighbor.

Both narratives have more than two past events or action words. Both of these narratives are about being stung by a bee, an event that has a temporal sequence in the real world. Both narratives unfold in such a manner that the events mimic the order in which they happened. Narrative One, however, does not have a high point. There is no emotional heart of the story. No evaluation takes place. Narrative One is a Chronology, a listing of unevaluated events. In contrast, Narrative Two does have a high point. The child uses repetition, evaluating her response to the bee sting, "I screamed and I screamed. I cried and I cried. I screamed and I screamed." In addition, Narrative Two has a resolution. The child indicates that everything turned out all right; in fact, "I got to sleep overnight with my neighbor." In scoring Narrative Two, we answered *yes* to all of the questions, which indicated a Classic Narrative structure. It must be stressed, however, that although resolutions

bring narratives to a formal closure, the content of resolutions may involve no solution to any problem (Peterson & McCabe, 1983) and may be quite negative. In Narrative Two above, for example, the resolution has nothing to do with solving the problem of the bee sting. Another resolution to a bee sting story might be a massive allergic reaction and hospitalization, which are highly negative events. In short, resolutions are formally defined as actions that occur after the high point event.

Identify the evaluated high point. Identifying the narrative structure is relatively straightforward except for identifying the evaluated high point. Evaluation doesn't disclose information about what happened in the past. Rather, evaluation reveals the meaning a happening had for the narrator. There are many kinds of evaluation. Some are obvious (e.g., "That was good"); others, such as negative events, are quite subtle. As Labov (1972) pointed out, an infinite set of things did not happen on any occasion. When a narrator uses negation to tell what did not happen (e.g., "My dad didn't keep his eyes on the road"), the narrator is identifying deviations from what people expected would happen, which is evaluative rather than informative per se. Figure 3 displays a list of evaluation types found in the narratives of 4- to 9-year-old North American, Caucasian, English-speaking children, along with examples.

Children normally evaluate their experiences. Children begin to use evaluation as young as 2 years (Miller & Sperry, 1988), and it becomes increasingly more frequent with age. In fact, Peterson & McCabe (1983) found that children aged 4–9 years who are developing normally evaluate half of all comments in some way. Although evaluation is prevalent in many narratives of young children, not all evaluation constitutes an evaluated high point. What distinguishes an evaluated high point from other types of evaluation is that the evaluation at the narrative's high point is concentrated in some way. For example, the evaluated high point or emotional heart of Narrative Three is italicized:

Narrative Three (8-year-old girl)

K: I really fight Pete. Well whenever we get home from school, he starts an argument. He says, "You got to do that. You got to do that." Which is, when it's really his turn. I get so mad I punch him in the *stomach* about that hard and he goes screaming, "Mommy, Kim hit me." I mean it. But when he gets in trouble and I have arguments with Pete, especially one. Well, it was the day he went into my room. I was at school still, this was when I was in kindergarten and he went in my room and *tore all my pictures down that I painted and he tore them up. And he broke one of my best, my very best doll, my Raggedy Ann, she was my favorite.* I got another one. I love Raggedy Ann dolls. Then I told my mother and she came and he got it. Then we started arguing all over again. Boy once Pete talks, he can't stop talking.

Here, the narrator leaves no room for doubt about the heart of this experience for her, although there is some evaluation earlier in the narrative (e.g., *stomach* is stressed, "I mean it," etc.).

² For all narratives presented, the initial E indicates the examiner.

³ It was necessary for pedagogy to include narratives of children older than preschool age in the body of the text. Additional narratives of preschool children may be found in the Appendix.

Identify age appropriateness of narrative structure. Table 1 may be used to identify whether a child is using narrative structures that are typical of his or her age group. For example, Narrative Two, a Classic Narrative, was produced by a 5-year-old child. From Table 1, we see that although the dominant structure for children aged 5 is end-at-high-point, 21% of the 5-year-olds studied produced more advanced Classic Narratives. The child who produced Narrative Two is functioning well within normal limits on narrative structure. On the other hand, if a 5-year-old boy produced only Two-Event Narratives at best, he would fall into the lowest 10% of normal children. This would be cause for concern about his narrative skills. In short, if children produce a narrative that falls into the most common category for their age (or more advanced categories), all is well. If, however, children consistently produce narratives with less advanced structures, clinicians might advise monitoring. In particular, assessment of a Leap-Frog Narrative in a child over the age of 6 is quite a serious concern because none of the normal children interviewed produced narratives that fell into this category (Peterson & McCabe, 1983); in contrast, all of the children with a diagnosis of specific language impairment produced narratives that would fall into this category (Miranda, McCabe, & Bliss, 1993).

The 8-year-old child who produced Narrative One, a Chronology, has produced a structure that is normal for individuals of all ages. Hence, to determine whether she is functioning within normal limits, we would need to analyze a different narrative. In other words, if the narrative selected for scoring is a Chronology, a second or third narrative should be selected in order to find a narrative structure that falls along the developmental continuum.

Issues That Complicate the Identification of Narrative Macrostructure

Sometimes children provide the main event of a story to see whether the listeners are interested in hearing more. If listeners indicate their willingness to do so, narrators back up, tell the events that led up to the high-point event, and resolve it. Children should not be penalized for such normal departures from timeline sequencing. For example, one 7-year-old boy began his narrative, "I got bit by a crab." He then waited for a response, indicative of interest in hearing more, and eventually backed up to begin with, "We went down to Wisconsin."

Problems with pronouns and word-finding make narratives generally less comprehensible. Clinicians might notice that word-finding problems are prominent in the narratives they collect, but this is a different issue, requiring a different type of analysis. Clinicians should separate word-finding issues from issues of narrative construction, even though the flow of narratives is affected by word-finding problems.

Children with word-finding problems may sound to naive listeners as if they have problems with narrative construction; the job of speech-language pathologists is to distinguish between general discourse problems, such as word-finding deficits, and problems specific to narrative construction.

Also note that the assessment of the structural maturity of narratives among children should be distinguished from assessment of the truth value of what they say. Children developing normally will exaggerate or lie from time to time. One 5-year-old asked the first author, "Do you know what? Every single tree fell down on our house because

FIGURE 3. Evaluation types found in 4- to 9-year-old white English-speaking children.

Evaluation Type	Example
Onomatopoeia	"It went Bam."
Stress	"I screamed and I <i>screamed</i> " with heightened tone of voice
Elongation	"We had to stay a loong time."
Exclamation	"Oh boy!"
Repetition	"I screamed and I screamed and...I screamed and I screamed"
Compulsion words	"We had to come in then."
Similes and metaphors	"His eyes got as big as tomatoes."
Gratuitous terms	"very," "really," "just"
Attention getters	"I got to tell you the important part."
Words per se	<i>finally, accidentally, squished, scared</i>
Exaggeration and fantasy	"I picked them [trees] up with my pinky."
Negatives	"He didn't shot me or nothin'."
Intentions, purposes, desires, or hopes	"I hoped Santa would bring me a new one."
Hypotheses, guesses, inferences, predictions	"We didn't think it would rain."
Results of high-point action	"I cut myself with the knife. Blood came running out."
Objective judgments	"My brother liked my snowman much better than he liked my sister's."
Subjective judgments	"That was my favorite."
Facts per se	"I caught the biggest fish."
Internal emotional states	"She didn't care about me."
Tangential information that is evaluative of main narrative information	"She gave me ten dollars for going in there. <i>Ten dollars is a lot of money when you're little.</i> "
Causal explanations	"He hit me in the head with a rock, so I threw one at him."

there was a snowstorm. I picked them up with one, with my pinky. All of them with my pinky. Do you believe that?" If children tell such coherent, albeit untrue, narratives, they do not have narrative language problems. They may have other problems, but those are outside the purview of speech-language pathologists.

As professionals become accustomed to this scoring procedure, they recognize structures as children talk to them, at least well enough to determine whether narratives heard are chronologically or miscellaneous structured (it will be obvious to everyone if the narrative concerns death). In such cases, the clinician should make doubly sure to collect more than three narratives.

Individual Differences Versus Deficits

Several sources of individual variation must be considered while evaluating narrative skill. First, there are individual differences within the normal population. Some variation in performance is normal. Children developing normally may produce a Chronological Narrative followed by a Classic one at any given time. Moreover, the same topic may elicit a Leap-Frog Narrative from one 4-year-old but a Classic Narrative from another 4-year-old. Some normal variation can be expected among age peers in optimal performance. For example, compare the Classic Narrative Two above produced by one 5-year-old, and the more typical End-At-High-Point Narrative Four produced by another 5-year-old below. This type of variation is common and should be expected in narrative production.

Narrative Four (5-year-old girl)

E: Did you ever go to the doctor's office?

D: Uh-uh. No, yes, over Dr. Graham's house, night.

E: You went there? What happened?

D: Nothing. Just I stuck around and he told me to come in first and then he, and, that's all I had to do. And taked me out, out, and and he put me in the doctor office. And I had a cold.

E: You did?

D: Last night.

E: Right.

D: And I, I was scared to come in. And he didn't shot me or nothing.

E: He didn't shot you or anything?

D: Uh-uh. He didn't even shot me.

E: He didn't shot you?

D: He gave me them, them tiny pills too, just like you. That's only reason I had.

Individual differences also may vary according to culture. Most of the research reviewed in this paper has been done with North American, Caucasian, English-speaking children. It is critical to realize that substantial cultural differences influence the ways children structure their narratives. Such cultural differences must be carefully distinguished from individual deficits. For example, African American children often tell what has been called a Topic-Associating Narrative (Michaels, 1981). Such narratives thematically combine narration of events that happened at different times and places into one narrative

(Rodino, Gimbert, Perez, Craddock-Willis, & McCabe, 1991), as in Narrative Five.

Narrative Five (7-year-old African American girl)

E: Have you ever been in a car accident?

C: Yes when I was with my aunt and my mother. And my mother was driving the car but there was a truck in the way and she was trying to move over and pass him, but the truck was too big. And when she, and she moved over. And when she was driving, she moved back the other way. And the mirror on the outside of the door—it bumped into the side of the car—not the mirror. But on the side of the car it bented. My father got mad at her because it wasn't her car. It was my father's. And he, when my, we got home, my mother said, "Go tell your father it's time to eat." And I told my daddy. And he said leave him alone. And he didn't come to eat until we were sleeping. But he didn't. He did eat, but while we were asleep. But he was mad. So he moved out. Cause my mother bent the car, but only on the side.

E: Okay. Well that was very good.

C: And one day somebody threw a rock and hit my daddy's, my father's car. And the mirror—it broke off. And me and my cousin saw it, and we were mad too. And after that he [father] moved out.

In a manner reminiscent of *haiku*, Japanese children tell extraordinarily succinct collections of experiences, often given in sets of three lines, rather than narrating the details of what happened on one occasion in the manner that North American, Caucasian, English-speaking children do (Minami & McCabe, 1991), as in the following example:

Narrative Six (8-year-old Japanese boy)

A: As for the first, you know, got at Ehime, you know, hurt a lot. As for the second, you know, knew, you know, hurt, you know. Well, you know, didn't hurt so much, you know. The next was the same again. As for the very last, you know, didn't hurt at all.

In the present framework, the above narrative would be classified as a One-Event Narrative. It would be found atypical of productions by children of this age. However, such a classification would be inappropriate because this narrative was told by a Japanese child. Its structure is quite different from that of North American, Caucasian, English-speaking children (see Minami & McCabe, 1991, for more details on Japanese children's narrative structure).

Children from Latino cultures rarely focus on sequencing events in their narratives, foregrounding instead narration of family connections and relationships (Rodino et al., 1991). In fact, almost 50% of the narratives produced by children from Latino cultures contained no sequencing of events (Rodino et al., 1991). In story retellings, Hungarian children extensively embellish their recapitulations, unlike American children (John-Steiner & Panofsky, 1992). Hawaiian children tell talk-stories that weave teasing and fantasy into repetitive routines for a number of participants (Watson, 1975). Narratives from different cultures contrast with narratives produced by children with

specific language impairments, yet without careful attention the former could be mistaken for Leap-Frog Narratives, which would be developmentally inappropriate narration for their age group. Such misdiagnoses must be avoided.

Many important educational implications might be noted regarding cultural differences in narrative structure. However, they are quite complex and would require explanation far beyond the scope of this article (for more information see McCabe, in press).

Finally, individual differences vary according to deficit. As exemplified by Narrative Seven, some departures from normal developmental sequence reflect important deficits at the level of discourse. In Narrative Seven, the narrator jumps from talk of asthma attacks, to getting his tonsils out, to breaking his knee, to his friend's accident, without developing any of these or relating them to each other. Thus, this narrative is a Leap-Frog structure, very atypical of productions of North American, Caucasian, English-speaking children who are developing normally. In fact, this child was diagnosed as having specific language impairment.

Narrative Seven⁴ (9-year-old boy)

E: Last week, I had a sore throat. I went to the doctor and I had to get a shot. Have you ever gotten a shot at the doctors?

J: Yeah.

E: Tell me about it.

J: I was losing my voice, I was having asthma attack real bad. So, my friend go it and he got to me while I was coughing in the middle of the night, and he got a shot right on my leg and I had to take my tonsils out, I didn't like it. And...

E: You had to get your tonsils out?

J: That's what the doctor said.

E: And then what happened?

J: I went into the hospital for a week. And...because a I had a real bad asthma thing, and they just put me in the hospital for a week. And and I and I broke my knee.

E: You broke your knee?

J: Yeah. While I was ridin my bike, I was jumpin on a curb and and I was it was I was slidin through the air, and it looks like I broke my knee. I couldn't move nothin.

E: What happened?

J: My mom took me to the hospital and said um, said uh...the doctor said we he might be, we might be, we're going to...he has to do, can't ride his bike in the street, I can't ride my bike in the street anymore. Cause uh I get hurt. My friend David had a car accident.

E: He did?

J: Yeah, and he um he's in the hospital right now be...and (pause) he stopped and said I forgot. He said uh, they said uh, he can't he couldn't he can't, they put a metal

thing on his head. He will not talk. He's deaf now.

E: He's deaf?

J: Uh-uh. And they, they're gonna take it off soon. So they did, not he can talk now. And doin OK now, they took it off already. Uh...my friend, my mom's friend works in a hospital and in somewhere in Roseville. I forgot what's her name (pause). That's all I can think of.

Leap-Frog Narratives have one or more of the following features: (a) events on a specific occasion are given out of sequence (e.g., J says "they're gonna take it off soon...they took it off already."); (b) important information appears to be omitted (e.g., J omits a connection between his asthma attack and his tonsillectomy); (c) scripts are inserted into a narrative about past events; (d) instead of giving more information about one specific occasion, the narrator may leap into generating narratives of a similar occasion (e.g., J talks about his friend's accident, his own accident, and other hospitalizations); and (e) unrelated occasions are narrated intrusively in the midst of another occasion (e.g., one child with specific language impairment began a story about a birthday party, leaped to a story about his aunt's accident and back to the birthday party). This is the kind of variation, mindful of age, culture, and normal variation, that should be registered to indicate a child at risk for reading. A considerable body of literature reviewed above links problems with narrative skill to reading comprehension difficulties. If a 3-year-old has not yet referred to past events, there may be cause for concern. If a 4-year-old never chains two events together in any kind of narrative sequence, there may be cause for concern. If a 6-year-old is still struggling with sequencing events, or not chaining two events together in most instances, there may be cause for concern.

As speech-language pathologists, it is critical to separate out issues that explain narrative differences exhibited by children. Is individual fluctuation characteristic of normal performance? Is it individual deficit? Or is it, instead, a matter of cultural differences? To assess narratives from children coming from different cultures, professionals must appreciate how stories are valued in these cultures. If a 7-year-old North American, Caucasian, English-speaking child produces Leap-Frog or Single-Event Narratives at best, however, an assessment of narrative deficit is definitely warranted.

Treatment Possibilities/Implications

Given that a narrative deficit is diagnosed, intervention efforts for narrative deficits should take place throughout the child's day. Past efforts to improve narrative skills by talking one-on-one with a friendly adult for several hours a week over the course of several months have not been successful (e.g., McCabe & Peterson, 1989). Hence, intervention should focus on consultation with teachers and staff within the school environment and consultation with the child's parents (or primary caretaker). Furthermore, intervention with parents and child together is integral to the language treatment of preschool children with narrative-level difficulties. The reasons for this are twofold:

⁴Narratives # 1, 2, 3, and 7 are from the Peterson and McCabe (1983) corpus. Narrative # 4 is from the Rodino et al. (1991) corpus. Narrative # 5 is from the Minami and McCabe (1991) corpus. Narrative # 6 is from the Miranda, McCabe, and Bliss (1993) corpus.

(a) preschool children spend most of their waking hours with their parents (or primary caretakers), which makes such adults the logical choice to facilitate narrative skills through the child's day; and (b) some parental styles of talking about the past predict more optimal narrative development than other styles.

In a longitudinal study, McCabe and Peterson (1990b) studied 10 children talking about past events at home with their parents. The study began when the children were 2:0 and continued until they were 6:0. Some parents did not take "Nothing" for an answer to questions like, "What did you do in school today?" They talked at length about a variety of topics with their children, especially ones that seemed to interest the children (e.g., "Who had an accident in nursery school?"). Other parents responded to their 2-year-olds' inept narration by changing the subject frequently, never dwelling on any one topic about the past. The first group of parents—those who habitually extended topics concerning past events, using a variety of techniques for doing so—were the ones whose children were the best narrators as measured by high-point analysis 4 years later. Parents who switched topics or habitually corrected their children (e.g., "That's not the way it happened") had children who eventually refused to tell narratives to their parents (e.g., "You tell the story, Mommy.")

These findings suggest that many parents may need training concerning optimal language facilitation techniques. It is not enough for parents to be told to elicit narratives from their children; they may need to be educated and supervised in facilitation techniques. For example, parents may be told to emphasize discussion of things that happened during times when they were separated from their children, because children see this as a real communication exchange rather than the kind of test or school assignment they do poorly on (e.g., "Tell me what we did when our class went to the science museum."). From the age of 31 months, children are more likely to respond to prompts about events that occurred when they were not with their parents than when they were (McCabe & Peterson, 1991b). Parents should also be encouraged to interweave narrative exchange among other language games (see McCabe, 1992, for various games prerequisite for narrative exchange presented in a format intended for use by parents).

Conclusion

A number of researchers have found that preschool children who are unable to tell a personal narrative as well as their peers may be at risk for difficulty acquiring literacy. We have proposed a method of eliciting and scoring personal narratives from preschool children and presented some normative data that would enable early detection of problems at the narrative level of language. The authors have attempted to carefully distinguish between the kind of jumbled and incomplete event sequences told by children after the age of 4 years who have problems with language in general and narrative construction in particular, and the kind of alternative storytelling styles of children from other cultures that may value

structures other than the kind of sequencing found in North American, Caucasian, English-speaking narratives. We invite readers to try our method of narrative analysis on the additional narratives of young preschool children included in the Appendix.

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Appendix

Narrative Eight (4-year-old girl)

E: When I go home I have to visit my aunt who's in the hospital. She broke both of her legs. And she has to have them kind of hung up, suspended from the ceiling with those little wires.

B: She had to have cast on.

E: That's right.

B: My sister had, she's had. She broke a arm when she fell in those mini-bike.

E: Tell me about what happened.

B: She broke her arm. She had, she went to the doctor, so I, my Dad gave me spanking, and I

E: Your Dad gave you what?

B: A spanking to me.

E: A spanking?

B: Yeah. And she had to go to the doctor to get a cast on. She had to go get it, get it off and, and it didn't break again.

E: And then it didn't break again?

B: No. She still got it off. She can't play anymore.

E: She can't play anymore?

B: She can't play we, she can play rest of us now.

E: Oh good. ... Have you ever had a shot?

B: Mm, she has cast on. When she was home. When she came back and she, and she, and she hadda go back and, take off the cast.

E: She had to go back and take off the cast?

B: Yeah. The doctor.

Questions:

1. Are there two past events? *Yes: broke, went, gave, had to go, came back, had to go and take.*

2. Are there more than two such events? *Yes.*

3. Is there a logical, perhaps causal sequence to those events in the real world or could they have occurred in any order? *Yes, events precipitating an injury and the follow-up treatment have a tight causal sequence in the real world.*

4. Does the narrator's order of delivering those events mirror the sequence in which the events must have logically occurred? *No, narrator jumps around in time and leaves out what we infer was her iniquitous act that actually caused her sister to fall off her bike and break her arm.*

Thus, this narrative is termed a Leap-Frog Narrative, quite typical of 4-year-old narration.

Narrative Nine (23-month-old girl)

J: I hied the big boy.

Questions:

1. Are there two past events? *Again, no there is only one event, and that is an idiosyncratic formation.*

Such One-Event Narratives are really quite good productions for children not even 2 years old.

Narrative Ten (31-month-old boy)

M: Did you like the puppy?

N: He taste my knee.

M: He tasted your knee?

N: Theth, an puppy chase me!

Questions:

1. Are there two past events? *Yes, "taste" and "chase."*

2. Are there more than two events? *No.*

This Two-Event Narrative is typical of 2- to 3-year-old children.

Narrative Eleven (2 1/2-year-old boy)

N: 'Member my book? My baby sitter b(r)oke it.

Questions:

1. Are there two past events? *No, only one, "b(r)oke." Again, even though the pronunciation is not exactly correct, this is not a narrative problem.*

Although the chart does not depict narratives by such young children, from the literature review in the paper we found that such One-Event Narratives were quite normal productions from 2-year-old children.

Narrative Twelve (3-year-old boy)

N: I go to Janie's school and da man hid a white rabbit.

Questions:

1. Are there two past events? *Yes, there are two events, "go" and "hid." Even though they are not marked morphologically as past tense, that would be seen as a grammatical issue rather than a narrative one.*

Such Two-Event Narratives are common from 3-year-old children.

Narrative Thirteen (4 1/2-year-old boy)

E: (rubs elbow) Oh, I hurt my elbow.

M: Hurt head. (boy touches head as he says this)

E: You did? Tell me about it.

M: Fell down.

E: Yeah? What else?

M: That's all.

Questions:

1. Are there two past events? *Yes, "hurt" and "fell."*

2. Are there more than two events? *No.*

This Two-Event Narrative is atypical for a 4 1/2-year-old boy.

Comparison with the other narratives reveals that it is more similar to the productions of the 2 1/2-year-old (Narrative Ten) or the 3-year-old (Narrative Twelve) than to the typical multiple-event, Leap-Frog Narrative told by 4-year-olds (e.g., Narrative Eight). This little boy is diagnosed as having specific language impairment. His narrative skills are also delayed, unfortunately.

Assessment of Preschool Narrative Skills

Allyssa McCabe, and Pamela Rosenthal Rollins
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