

EIGHT-YEAR-OLDS' CONSTRUCTION OF NARRATIVES
AND LEVELS OF LITERACY

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ABSTRACT

The purpose of this study was to explore the ability of 8-year-old children to construct oral narratives from a wordless picture book, Frog, Where Are You? (Mayer, 1959) and to investigate whether there was a correlation between the children's narrative ability and reading comprehension. Specifically, there were two goals of this study: The first was to explore the way children globally organized their narratives in terms of plot components (I Onset, II Unfolding, and III Resolution), their narration specific events, and their methods of linguistically combining clauses, and linguistically packaging events; and to compare these characteristics to the narratives of 5-year-olds and 9-year-olds reported in Berman and Slobin (1994). The second was to attempt to correlate these characteristics with the children's performance on a reading comprehension assessment.

Twelve children between the ages of 8;1.0 and 9;2.0 participated in this study, 6 of whom were in second-grade and of 6 whom were in third grade. Six of the children were part of previous narrative studies conducted at the University of British Columbia. Each child narrated the story twice, with one week between each telling, during which the children "read" the book with or to their caregiver(s). The children's reading abilities were measured using the Gates-MacGinitie Reading Test (MacGinitie & MacGinitie, 1989).

Results showed that with respect to the use of plot components these children's narratives were generally comparable to those of the 9-year-old children reported by Berman and Slobin. Their use of event components was proportionately higher than Berman and Slobin's 9-year-olds'. The majority of the children performed above grade level on the reading assessment, and little variation was found between reading scores. Therefore, grade level was used as an indirect measure of literacy exposure. An association was found between grade level and inclusion of plot components, as well as, the use of 'linguistically mature' methods of event packaging. No association was found between grade level and the inclusion of plot components, use of multiclaue sentences, or linguistically mature methods of syntactically combining sentences.

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Chapter 1

Introduction

OVERVIEW

The purpose of this study was to explore the ability of early school age children to construct narratives based on a wordless picture book and to explore whether there is a correlation between the children's production of spoken narratives and their reading comprehension. Much research has been carried out concerning the development of children's ability to produce narratives. This project followed the narrative studies outlined by Berman and Slobin, in Relating Events in Narrative, (1994). Berman and Slobin compared the development of narrative structure across five language groups and four age groups. Another researcher of note in this area is Michael Bamberg, who in 1985 studied the production of narratives in German from subjects who ranged in age from 3 years to adult.

The children in this study were at a stage in their reading development where they were "ungluing from print" (Kamhi & Catts, Ch. 2, 1989). That is, they were past the 'decoding stage' of reading and moving towards automated recognition of words in print. Therefore, they were beginning to focus energy that once was devoted to decoding of words on the comprehension of text.

The overall aims of this project were to contribute to the body of data about children's production of narratives, including a longitudinal study being carried out at the University of British Columbia, and to gain some insight as to what degree narrative skill is correlated with reading comprehension for typically developing children. Specifically, the objectives of this study were to:

1. To examine the ability of 8-year-old children to construct narratives based on the picture book Frog, Where Are You? (Mercer Mayer, 1969). Of interest was the children's construction of overall plot and ways in which they linguistically 'packaged' events.

2. To investigate whether there was a correlation between the children's production of spoken narratives and reading comprehension.

THE RELATION BETWEEN READING COMPREHENSION AND ORAL NARRATION

Literature that examines the link between oral narration and reading comprehension suggests that children with reading disabilities perform more poorly on oral narration tasks with regard to the quality and completeness of narratives than children without reading disabilities (Feagans & Short, 1984; Cain & Oakhill, 1996; Westby, 1989; Weber, 1990; Klecan-Aker & Caraway, 1997). Cain and Oakhill classified second-grade children's narratives based on levels of story quality: 'nonstories', 'intermediate stories', and 'complete stories' (Cain & Oakhill, 1996, p. 191). Nonstories were incoherent stories that lacked any logical sequencing of events. Intermediate stories contained a sequence of events, but the events were not causally related. Finally, complete stories were those with an integrated coherent sequence of events that were causally related (p. 191). Children who were characterized as having lower levels of reading comprehension ('less skilled comprehenders'), were found to tell poorer quality stories overall than age-matched children who had good reading comprehension, and children who were younger but had the same level of reading comprehension (p. 195). Some effects of prompt type were also noted. When compared to topic prompts (providing the child with a topic to develop a story around), picture sequences seemed to reduce the differences in story quality between the 'less skilled' group and the younger children. However, the less skilled children still told stories that were of poorer quality than the children in the skilled comprehension group.

Weber (1990) also classified children's stories into three different categories according to quality. These categories as adapted from Stenning and Michell (1985, as cited by Weber, 1990, p. 96) were 'interpretive', 'descriptive', and 'restricted' (p. 296). Interpretive stories are similar to the complete stories described by Cain and Oakhill. They are stories in which the narrators provide a coherent overall plot, and demonstrate an understanding of events and relations among them. Interpretive stories also provide information about characters' motivations and inner states. 'Descriptive' narratives provide essentially frame-by-frame descriptions of pictures and may include minor inaccuracies. They are similar to the

'intermediate stories' described above. Restricted stories are incomplete and often grossly inaccurate (Weber, 1990, p. 298). They can be compared to 'nonstories'. As in the study by Cain and Oakhill, Weber found that children who were poor readers produced narratives that were of lower quality than children who were good readers. Although the children in this study were older than those studied by Cain and Oakhill (fourth as compared to second grade), and the categories for classifying story quality were somewhat different, the results were similar.

Like Cain and Oakhill, Barnhart (1990) also studied second grade children's narratives. Barnhart not only compared reading disordered children to typically achieving children but also examined the narratives of children who were classified as having reading skill above grade-level. The children were measured on their ability to retell a folktale to examiners who had not heard the story before. She found that children who had above grade-level reading skills tended to tell more complete and accurate stories than children who were at or below grade-level. However, children with grade-level abilities told more complete stories than the children who were in the below grade-level group (p. 259). Story 'completeness' was determined by the number of story functions included in the story. Story functions are sequences of actions and reactions that are invariably found in folktales (based on Prop, 1978, as cited in Barnhart, p. 258). Moreover, children who were in the above grade-level reading group tended to provide more setting and character information than the children in grade-level or below grade-level groups. As well, children in the grade level group provided more information than the children in the below grade level group.

Klecan-Aker and Caraway (1997) also found that story quality correlated with reading ability. This was based on the inclusion of story-grammar components by children in their production of stories from picture sequences (p. 116). Children who had higher levels of reading achievement included more story components than those children with lower levels of reading achievement. Story grammar components include setting and character information, statements about the initiating event in the story, action statements (which are attempts to

resolve the problem), character dialogue, consequences of actions taken by characters, and final resolution to the central problem (Klecan-Aker & Caraway, 1997, p.122).

Despite differences in these studies, such as the age of the children studied, and methods for analyzing story quality, they all show similar results. That is, children who are good readers tend to tell higher quality stories than children who may have difficulty with reading. This literature also suggests that children who have better than average reading skills tend to tell stories that are better in quality than do children with average reading skills.

Aside from the overall quality of narratives, the linguistic elements of children's narratives have also been examined for differences between good and poor readers. Studies have found that good and poor readers differ in their use of connectives, ability to use anaphoric reference, and use of tense and temporal connectors (e.g., Weber, 1990; Feagans & Short, 1984; Cain & Oakhill, 1996). Many studies have also looked at children's use of syntactically complex sentences in their narratives as a method of differentiating the performance of good and poor readers. According to Westby (1989), use of subordinate clause structure (complex sentences) is associated with a literate language style and increases with exposure to literacy.

Two studies, Barnhart (1990) and Klecan-Aker and Caraway (1997) used T-units to measure linguistic complexity. A T-unit is defined as a main clause plus any subordinate clause or nonclause structure attached to it (developed by Hunt, 1965 as cited in Westby, 1989 p. 208). Both Barnhart and Klecan-Aker and Caraway showed that the number of T-units per story correlated with reading achievement (Barnhart, 1990, p. 257; Klecan-Aker & Caraway, 1997, p. 115), with the number of T-units increasing with higher levels of reading achievement. Feagans and Short (1984) also found that children who were good readers tended have a higher number of complex sentences in their stories than children who were poor readers. They also found that the number of complex sentences in stories increased with age, with older children using more complex sentences than younger children (p. 1732). As with

story completeness, similar patterns have been found across studies in good and poor readers' ability to use complex sentences in narratives.

Many of the studies reviewed above examine narratives of language- or reading-disabled children. It was my intention to compare the narrative abilities of children who are normally developing to their performance on a measure of reading comprehension. Little developmental information is known about the correlation of reading ability and the construction of oral narratives (as noted by Roth, Speece, Cooper, & De La Paz, 1996, p. 273). As well, I wanted to compare the narratives of children who are the same age but in different grades and have, therefore, had different exposure to reading instruction. This is in contrast to Berman and Slobin (1994), who looked at the development of children's story-telling ability by grouping children by age without reference to grade level.

Some of the above studies used story recall or retellings as a method of eliciting narratives from children (Feagans & Short, 1984; Barnhart, 1992). Story recall introduces memory as a variable to be considered when analyzing the children's ability to create narratives. This makes it difficult to know whether children's performance is related to their linguistic abilities or to their ability to remember elements in a story. Other studies used pictures to elicit narratives from children. The picture prompts usually involve 1 to 10 pictures that represent a short sequence of events. Klecan-Aker and Caraway found that most of their fourth-grade and sixth-grade children tended to fall into higher developmental levels with regard to their narratives (1997, p. 121). Feagans and Short found that, while all of the children improved over time, the comparison children in their study (non-reading disabled children) did not show as much difference in performance between the first and third years of their study as the reading disabled children (1984, p. 1733). However, the reading disabled children's ability to produce narratives was still behind the comparison group's ability by the end of the study.

Each of the studies mentioned above uses different methods to elicit and analyze children's narratives. However, what emerges from a review of this research area is a pattern

of story-telling abilities that is more likely to be observed in children with good reading achievement than in children with poor reading achievement. First, with regard to overall 'quality', children who are good readers tend to tell better stories than those who are poor readers. While the methods of analysis may differ, the underlying concept of a good quality story remains the same. A good quality story is one that outlines a coherent relation of events to form a plot that expresses a point.

A similar definition of a well formed story is outlined by Berman and Slobin (1994, p. 14). They define a well formed story as having two common features: "linguistic cohesion on the micro level of individual clauses and adjacent clauses, and thematic coherence on the macro-level of plot organization" (p.14). According to Berman and Slobin, children follow a common pattern of development towards increased coherence and cohesion.

Berman and Slobin's definition of a well formed story contains concepts similar to those underlying many of the studies that examine the relationship between oral narrative construction and reading comprehension. Therefore, their criteria were a reasonable choice for evaluating the quality of child narratives in this study. Moreover, part of the purpose of this study is contribute to a larger study at the University of British Columbia of child narratives that utilizes concepts outlined by Berman and Slobin. This method of analysis is consistent with that used in the larger study.

NARRATIVE STRUCTURE

Global Plot Components

Berman and Slobin used two methods to analyze the children's narratives at the global and local levels: (1) plot components, and (2) event structures.

Three core plot components are found in most well formed adult narration of Frog, Where are You?:

1. The onset of the plot: The boy's discovery that the frog has disappeared. 'Onset' as a category is comparable to the 'initiating event' category of story grammars.

2. The unfolding of the plot: The boy's search for the missing frog. This is the boy's response to the initial problem in the story. Not only the boy's actions in search of the frog are involved, but also the consequences of those actions. Continued reference to the search for the frog links otherwise separate events around a central theme.

3. The resolution of the plot: The boy finds the frog he has lost, or replaces the frog with a new one (p. 46). This category is comparable to the 'resolution' category outlined in story grammars.

Developmentally, the proportion of plot elements included in children's narratives increases. For instance, only 78% of the 5-year-old children in Berman and Slobin's study mentioned component 1, the onset of the plot. By the age of 9 years, 94% of the narrators explicitly mentioned component 1. The difference between ages is even greater for component 2, where 52% of 5-year-olds mentioned the boy's search for the frog, contrasting with 98% of the 9-year-olds. Finally, for component 3, 41% of the 5-year-old narrators included a resolution to the plot, but 62% of the 9-year-old narrators included one (Berman & Slobin, p. 48).

Not only does the proportion of children mentioning each plot component increase with age, according to Berman and Slobin, the number of narrators who included all of the plot elements also increased as children develop as narrators. Only 34% of the 5-year-old narrators mentioned all three of the plot components. This percentage almost doubled for 9-year-old narrators, 66% of whom included all of the plot components (p. 49).

It is apparent that the number of plot components referred to by the children develops between the ages of 5 and 9. This represents development both in the comprehension of Frog, Where Are You? as depicted by Mercer Mayer, and in the language abilities required to encode each plot component. Additionally, it relates not only to children's understanding of what constitutes a good story, but also their ability to create a good story.

Story schema or knowledge is an area of language that, according to various researchers, aids comprehension of both written and spoken discourse (e.g., Westby, 1989).

Story schemas provide a framework with which content can be organized and understood. At the most basic level, children who have an understanding of how narratives work know that stories have beginnings, middles, and ends, and that incoming information should be organized within that framework. Children who include global plot components into a story are demonstrating knowledge that information in a discourse should be organized in a certain manner. As children develop they come to recognize a central or global theme as an organizing framework for all other information presented in a discourse. This can aid in reading comprehension as children monitor how new information in a text relates to the general theme.

Local Structure

Berman and Slobin noted that few children simply described each picture of Frog, Where Are You? individually. Most children of all ages “relate to the pictures as showing events” (p. 51). In addition they found that the children were able to make inferences about things that are not visible on the printed page. As with the global structure of narratives, however, children evolve their abilities to include all components of an event structure. Thus, while they may be able to infer or see a physical change in state and encode it linguistically at an early age, they may not be able to recognize (or infer) and encode an inner emotional state until they are older.

Berman and Slobin analyzed two events for the inclusion of certain components that are part of well formed adult narratives. The first event is the scene in which the boy realizes his frog is missing. This scene is pictured on page 3, where the boy is lying on his bed with his dog, looking at the empty jar that once held the frog. Five components may be mentioned when relating this event:

1. The boy wakes up. He is asleep in the previous picture.
2. Temporal location. It is morning.

Both of these elements are background information that sets the scene for plot advancing elements to follow. Neither of these components is explicitly shown in the story (e.g., the boy

is shown asleep and then awake, but not in the state of waking up); therefore, they must be inferred by the narrator.

3. The boy learns or realizes something (that the frog has gone). Again this must be inferred by the narrator.

4. The jar is empty and the frog is gone.

Components 3 and 4 are plot-advancing elements in the story. They move the story on to the next event.

5. The subsequent action in the story (the boy gets out of bed to look for the frog), or affective reaction (the boy feels sad, surprised, worried). These are the motivations for the boy's response to the frog's escape. This component is also not pictured in the story and must be inferred.

It is interesting to note that the only two components of this event that are pictured are that the jar is empty and the boy is awake. All of the other components that may be included in this event involve inferences on the part of the narrator. A well formed relation of this event is far more than a simple description of the picture.

Berman and Slobin noted that 3-year-olds often mention either none of the event components or only the initial two event components. On the other hand, 5-year-olds mention the connection between the jar being empty and the boy realizing the frog has escaped. Many 9-year olds make explicit temporal reference to the "next day", and almost one third attribute an inner emotion to the boy that motivates his search for the frog (Berman & Slobin, p. 53).

The second scene is the 'Deer Deception event'. This event is shown on pages 16 and 17. On the first page the boy is shown standing on a rock, leaning on what appear to be branches. The next page shows the boy being carried on top of a deer's head. The event which the narrator must infer from this scene is that the boy climbing on a rock to look for his frog has leaned on a deer's antler's mistaking them for branches, thereby incurring the wrath of the deer, who carries him off. The authors noted a developmental progression in the children's ability to notice and adequately relay this event to a listener. Young children (age 3) may not

mention the event at all. Alternately, they may treat the boy climbing on the rocks and being carried off by the deer as two separate unrelated events. Berman and Slobin found that some 5-year-olds also treated the deer scene as two unrelated events. Other 5-year-olds related the fact that the boy getting stuck on the deer's antlers was an accident, but none of the 5-year-olds made explicit reference to the boy thinking that the deer's antlers were branches. By the age of 9, the proportion of children who treated the deer scene as two unrelated events, and those who implied that the boy had accidentally fallen on the deer antlers, was about equal. However, some 9-year-olds also made explicit reference to the boy's mistaken perception of the antlers as branches (Berman & Slobin, p. 55).

The inclusion of local event components, like the inclusion of global plot components, represents children's growing awareness of story knowledge. The inclusion of event components also reflects other areas of knowledge developing in the child. For instance, the inclusion of various event components reflects development of script knowledge. Script knowledge refers to generalized representations of events, such as knowing what happens at a birthday party, or knowing what someone would do if they lost something (such as a frog). As children mature and increase their world experience they increase their knowledge of how various events unfold in the world, and this is represented in their narration of events. The inclusion of local event components also reflects children's growing world knowledge, such as emotional motivation for action (being angry at the dog, or surprised that the frog was gone). As noted earlier, the construction of local events reflects children's ability to make inferences. Script knowledge, world knowledge, and inferencing ability are all necessary for comprehension of both spoken and written discourse (Kamhi & Catts, 1989; Roth & Spekman, 1989).

Clause Combining

Children's ability to include various local event components and global plot components is not the only area of narration that shows development. According to Berman and Slobin, younger children also differ in the level of sophistication they use in combining clauses linguistically.

Many of the studies that compared children's reading and narrative abilities examined the children's use of complex sentences. The children's ability to use complex sentences was often a measure of competence (Klecan -Aker & Caraway, 1997; Feagans & Short, 1984; Cain & Oakhill, 1996; Barnhart 1992). Children's ability to use complex sentences was seen as a measure of the literate quality of their narratives. Berman and Slobin asserted that the development of children's use of complex sentences is not only a reflection of their increasing syntactic abilities, but also their increased understanding of hierarchical relationships among events (p. 539).

According to Berman and Slobin (1994, p. 611), "a skillful narrative does not simply consist of a linear chain of successive events located in time and space. Rather events must be *packaged* into hierarchical constructions." The authors define packaging as "the various ways in which situations can be analyzed into components and encoded in multiclausal constructions" (p. 538). Packaging of events reflects children's growing understanding of the underlying temporal, causal, and motivational relation of events.

Packaging of clauses into hierarchical constructions serves four functions:

"(a) subordination of event components to a high point, (b) conflation of different phases of an event into a single event complex, (c) to allow the narrator to omit some event components that can be inferred by the listener, and (d) to control the rhythm and tempo of presentation to create suspense and surprise" (This is also done vocally with changes in rate of presentation, intonation patterns, intensity, etc.) (Berman & Slobin, 1994, p. 539). Berman and Slobin described children's increasing sophistication in their ability to package events as "the convergence of literary and oral narrative" (p. 14).

These authors noted five syntactic means of combining clauses into packages (p. 539):

1. Coordination with the null subject : Same-subject clauses are joined by and with a null subject in the second clauses, e.g.,

The deer picked up the boy and ran.

2. Verb gapping: This is when the predicate and/or the tense-bearing auxiliary is absent for the second subject, e.g.,

The boy was happy and the dog was too.

3. Finite linking: Clauses are linked by subordinating or nonsubordinating conjunctions with a finite verb in the conjunct clause. These include adverbial clauses marked by temporal or causal or logical connectives, e.g.,

The frog tiptoed out of the jar while the boy was sleeping.

4. Nonfinite linking: These are gerundive and infinitival constructions, e.g.,

The boy went to the forest to look for the frog, or The boy went to the forest, calling the frog.

5. Relative Clauses: This category includes all types of relative clause, including restrictive and nonrestrictive as well as headless relatives, e.g.,

The dog stuck his head in the jar that belonged to the frog.

Berman and Slobin found that verb gapping is used mostly by younger children. Coordination with the null subject and finite linking show the greatest development in the preschool years in English. Between the ages of 5 and 9 years, the use of relative clauses increases as a method for clause linking. Overall, the number of clauses combined as packages increases between the ages of 5 and 9 years of age, as well as between the ages of 9 and adult. The number of clauses within a package, however, remains relatively stable throughout childhood. Rarely do children combine more than two clauses at a time. Only adults consistently combine more than two clauses (pp. 541-542).

Previously mentioned studies found that children who were better readers were more likely to use complex sentences in their narratives than children who were poor readers.

Westby (1985, p. 208) also described complex sentences as one aspect of “literate language”. In a review of children’s written language acquisition, Perera (1986) notes developmental patterns of syntactic constructions consistent with those found by Berman and Slobin, especially with regard to combination (or packaging) of clauses. Perera compared data from three sources in order to examine patterns in the development of children’s acquisition of written language (Fawcett & Perkins, 1980; Hanscomb, 1967; Kroll & Wells, 1981). She found that coordination of main clauses into sentences decreases developmentally, while coordination of subordinate clauses increases (p. 496). She also noted that the use of relative clauses shows a clear developmental increase throughout the school years. Instances of relative clauses used to modify noun phrases more than double in children’s writing throughout the school years (p. 510). The use of nonfinite constructions to link clauses also appears to be evidence of increasing linguistic maturity, but according to Perera, there is little data on non finite constructions (p. 516). She did note significant increases in constructions with nonfinite verbs between the ages 8 and 13 years (1986, p. 497).

Perera’s results came from sources that compared children’s written discourse with their conversational discourse. She observed that children’s writing tends to contain a greater proportion of structures that are considered linguistically mature compared to their conversation (p. 503). She also noted that there are syntactic constructions that occur in children’s written discourse which rarely, if ever, occur in speech. This is also true in adult language; certain syntactic constructions (such as complex nominal phrases and relative clauses) are usually the domain of written discourse. Therefore, to acquire these structures, children are most likely to be exposed to them in written form. In other words, they must read them, as even adults rarely use these constructions in speech.

It is important to note that Perera’s data came from studies that compared grammatical constructions found in children’s writing with constructions found in conversational speech. Many researchers have described the difference between written and conversational discourse (e.g., Halliday, 1989; Tannen, 1982; Miller, 1993; Perera, 1986). There are several reasons

for the differences between written and spoken discourse. Spoken discourse relies on speakers who are constructing language 'on line', making the construction of complex sentences more difficult. On the other hand, conversation is interactive in nature, involving two or more speakers face to face. Therefore, the listener can ask for clarification if misunderstandings occur. Moreover, speakers in a discourse usually share the same physical environment (an exception is telephone conversations), so speakers have the advantage of nonlinguistic information such as body language to help in the transmission of their messages.

Unlike spoken discourse, written discourse is an individual act. Writers are unlikely to receive immediate feedback about the clarity of their messages; they must anticipate their readers' needs. It is important for writers to be clear and to convey information succinctly. Writers have the advantage, however, of being able to edit and refine their work before it is presented to their readers to ensure clarity. Furthermore, formal written discourse is usually subject to explicit rules regarding content organization and style, which govern the way in which writers convey information. Spoken discourse is also subject to rules, but the rules are rarely made explicit (Kamhi & Catts, 1989, pp. 21-23).

It is worth noting that there are variations in both spoken and written discourse. Some spoken discourse is more like written discourse, such as an academic lecture, or a news broadcast. Moreover, some written discourse is more like conversation, such as a chatty note to a friend or dialogue from a play. Tannen (1982) described spoken and written discourse as two ends of a continuum, representing 'idealized' forms that frame a whole range of discourse options. It can be argued then that narratives fall somewhere on the continuum between formal written discourse and conversational speech. Like conversation, spoken narratives (that are not memorized) are generated online. However, unlike conversationalists, narrators need not exchange turns with their listeners, and a narration may be practiced and refined before it is presented to a listener (However, narration in some cultures is highly interactive).

Furthermore, children are often told narratives from story books which are in written form and often contain literate forms not present in ordinary conversation. Spoken narratives, then, are often verbal expressions of written language. It is thus reasonable to expect that children's narratives would contain syntactic constructions similar to those found in their written work. As children mature they learn different forms of discourse and appropriate ways of constructing the discourse. Examples of sophisticated packaging of clauses in children's narratives can be evidence of the "convergence of oral and literate narratives" spoken of by Berman and Slobin (1994, p. 14).

Event Packaging

The creation of event packages requires the narrator to see that two situations can be construed as part of a single event. The process of analyzing various situations as belonging to one event and synthesizing them into a unit of hierarchically linked clauses is referred to by Berman and Slobin as 'event packaging' (p. 546). The four developmental levels of event packaging are (1) temporal, (2) causal, (3) constituent, and (4) event complex. As will be seen, development can also occur within levels (pp. 546-547).

'Temporal packaging' was available to even the youngest narrators in Berman and Slobin's data base. They tended to relate two situations simultaneously or sequentially in time. They tended to see each event as independent and verbally linked events based on perceptual contiguity in the pictures. Temporal packaging by older children includes expression of various kinds of foregrounded and backgrounded relations between the events encoded in a package. Foreground refers to events that are central to the plot line or advancement of the story. These may include central characters or the main theme of the story. Background information involves secondary events or characters, as well as setting information (Wallace, 1982, p. 208). In a narratives such as Frog, Where are You? , several events involving different characters in the story occur simultaneously. This requires narrators not only to describe the events, but to express to the listener what information is central to the story or

foreground, and what is background or secondary information. In addition skillful narrators of this story are required to switch between events, sometimes highlighting one event and at other times highlighting another. Therefore, they must switch between foregrounded and backgrounded events in the story. Two examples of the same scene follow below. The first is an example of temporal event packaging to express a sequential relationship between events. The second is an example of temporal event packaging to express the relationship between backgrounded and foregrounded information.

(1) C06: *Then when it was time for the little boy to go to bed, he just went to bed, and the frog jumped out of the jar.*

(2) C01: *One night while the boy was sleeping, the frog jumped out of the jar and ran away.*

Although these two descriptions describe the same scene, the first expresses the boy going to bed and the frog escaping as two independent and equal events. In the second description the boy's state is expressed as the background or setting to the main event, which is the frog's escape. Foregrounding and backgrounding will be discussed in more detail later in this section, as they are related to clause and event packaging.

'Causal connectors' are also used by children as young as 3 years old, according to Berman and Slobin. However event packaging of cause, motive, and purpose continues to develop in the school years, as conceptual and syntactic abilities develop. Whereas preschool casual packaging is usually based on physical causality, by age 9 children begin to pay attention to the characters' inner motivations. This level of packaging requires complex syntactic abilities, as well as the ability to make inferences about characters' inner motivations or emotions (Berman & Slobin, 1994, pp. 546-547). An example of causal packaging follows below.

(3) C12 : *Jason was very angry because the jar was broken..*

Here the child not only describes the boy's emotional state but also the reason for that state.

'Constituent packaging' requires that an event be analyzed into constituents that make up a single event. This is different from two equal situations that are joined through temporal or causal relations. Instead, clauses are used to encode two phases of the same event that are neither sequentially, simultaneously, nor causally related.

(4) C12: *He was very surprised to see that Jump had escaped.*

In the example above, being surprised and seeing are a unitary event, where one constituent represents an external event and the other constituent represents an inner state. Some 9-year-olds were able to use this method of packaging events (Berman & Slobin, 1994, p. 548).

Again some 9-year-olds in Berman and Slobin's study exhibited the ability to produce 'event complexes', which packaged several events into one complex sentence. Event complexes contain a main clause and two or more subordinated clauses. However, 9-year-olds did not combine as many clauses as adults, who could combine up to eight clauses within a sentence (Berman & Slobin, 1994, p. 552).

Foreground, Background, Multiclausal Packaging, and Event Packaging

In narrative 'foreground information' refers to the plot-advancing events (Berman & Slobin, 1994; Hopper, 1979; and Wallace, 1982). The main points of a written exposition, the most important steps in a procedure, or the central ideas in a lecture can also be described as 'foreground' information (Wallace, 1982, p. 208). It is incumbent upon the speaker in a spoken discourse or the author in a written discourse to make clear to the listener (reader) the main points of his or her discourse. The process by which the main points are highlighted has been called 'foregrounding' (Wallace, 1982, p. 208).

'Background information' in narratives refers to secondary or lesser events. It may also refer to setting or character information. As with 'foreground' information, background information may refer to 'secondary' information provided in any type of discourse. This may include elaboration on the main point of a lecture, secondary points to an argument, or descriptive information (Wallace, 1982, p. 208). Although background information can be

described as secondary to foreground information, its purpose is no less important.

Background information provides the context in which foreground events or information are situated. Without the relevant background it would be difficult for the listener or reader to follow the central events in a narrative or understand the main points of an argument.

Furthermore, in narrative the 'background' information provides depth and texture to the unfolding plot.

Berman (1993, p. 172) noted that there is no one correct way for narrators to express information surrounding an event. Narrators may choose different rhetorical styles with which to present information. For instance, they may choose to package several components of an event into one sentence or lay out each component separately. For children to be able to use these options, however, they must develop the following:

- (1) a repertoire of linguistic means for expressing different options;
- (2) knowledge of the functions these means can serve in a language;
- (3) cognitive basis and affective motivations for deciding among options on any given occasion (Berman, 1993, p. 173).

Narrators require the ability to switch perspective in a discourse from foreground to background information. For example, a narrator may be describing the central events in a narrative but need to elaborate the setting, or as in Frog, Where Are You? need to describe simultaneously occurring events involving secondary characters (Berman, 1993, p. 191).

Speakers use various linguistic devices to establish background and foreground information.

Wallace (1982) maintained that linguistic categories are closely tied to their discourse function.

He claimed that linguistic categories such as verb tense cannot really be understood without considering the function of those categories in extended discourse. For example he claimed present tense is more often associated with foreground information, whereas past tense is often related to background information (p. 209). He noted that 'historical present' (writing about historical events in present tense) is meant to bring the events to life or make them more salient

or more interesting to the reader or listener. He also observed, however, that tense can be used stylistically to switch perspective.

According to Wallace, aspect may also be associated with foreground and background information in extended discourse. He observed that 'perfective' or 'complete' aspect is often used for foreground information and he argued that events or actions that have discrete temporal boundaries are often more salient. On the other hand unbounded, ongoing states or events make up the background, and imperfective aspect is used to express these states (p. 208).

The way in which clauses are combined or packaged in complex sentences may also be dependent upon whether the information being expressed is foreground or background information. Clause packaging may include both verbal and nominal phrases. Nominal phrases are the participants in events or states. Information that can be 'packaged' in a nominal clause includes definiteness, and new versus given information (Foley & van Valin, 1985, p. 284). Further, the focus of backgrounding clauses is often different than foregrounding clauses. Backgrounding clauses tend to contain more topic changes than foregrounding sentences (Hopper, 1979, p. 215).

The packaging of noun phrases around verb phrases allows participants to become the subject of sentences. In any single transitive clause there are two basic semantic relations: an actor and an undergoer. The actor is the participant who undertakes the action of the sentence. The undergoer is the participant which is the recipient of the action (Foley & van Valin, 1985, p. 293). In Subject-Verb-Object languages such as English, the subject of a sentence is often the actor. Passive sentences change the roles of the participants in sentences such that the undergoer becomes the subject of the sentence. For example:

(5) Fred delivered the pizza.

(6) The pizza was delivered by Fred.

In (5) above Fred, the actor, is the subject of the sentence, but in (6) the pizza, which is the recipient of the action, becomes the subject. Not only do these word orders change the

grammatical relations within the sentence, they also serve different functions. The first sentence would be the answer to a question such as “What did Fred do?”. In contrast the second sentence would be the appropriate answer for the question “What happened to the pizza?”. Different types of packaging of noun phrases around a verb can be responses to different discourse functions (Foley & van Valin, 1985, pp. 295-293).

In English there can be either foregrounding or backgrounding passives.

Backgrounding passives remove the actor from the core of the clause, in order to highlight the undergoer. For example:

(7) The pizza was delivered.

Here the actor is completely removed from the clause. However, backgrounding passives in English may include the actor in the form of a ‘by’ phrase as in (6) above.

Foregrounding passives function to permit a nonactor or undergoer to occur as the core of the clause.

(8) The boy was carried off by the deer.

Here the boy is the core of the clause and the subject of the sentence, but the deer is the actor. The purpose of this passive construction is to highlight the boy’s experience rather than the deer’s experience.

Coordination of clauses can also be related to background and foreground information. Relative clauses and subordinate clauses often contain background information. Therefore, in a narrative it may be that setting information, or information about secondary characters that is contained in these clauses (Berman, 1993, p. 192; Hopper, 1979, p. 215).

Left dislocations and topicalizations can be used to foreground information. In the examples below (9) is an example of a left dislocation and (10) is an example of a topicalization.

(9) The dog, he wasn’t very smart.

(10) The frog, the boy caught yesterday.

The difference between the types of sentence is that left dislocations are external to the clause and can behave independently from the subject. Topicalizations, however, are noun phrases and are part of the clause which are moved from the usual word order to make the noun phrase the topic of the sentence (Berman, 1993, p. 192; Foley & van Valin, 1985, p. 399).

Berman (1993) observed that children may be able to use various linguistic forms long before they use them in narrative. She also noted that children may not use linguistic forms for the same function as more mature speakers (p. 174). Therefore, it would be expected that children would not only develop linguistic forms, but also the functional use of those forms. Foregrounding and backgrounding may be found in children's narratives, but the way in which children switch perspective is different from adult narrators.

SUMMARY

Studies that examine the connection between spoken narrative construction and reading ability have involved children of different age groups and used different methods of eliciting narratives and different methods of assessing reading ability. However, certain patterns emerged among the studies. Children who are good readers tend to tell higher quality, more complete stories, and use more linguistically complex structures in the production of those stories (e.g., Weber, 1990; Barnhart, 1990; Klecan-Aker & Caraway, 1997; Feagans & Short, 1984). Studies of children's narrative production by Berman and Slobin (1994) also showed developmental changes in children's stories with regard to plot construction and linguistic complexity. This development is similar to that in written language acquisition (Perera, 1986). For example, subordination, the use of relative clauses, and nonfinite linking are all examples of linguistic maturity. However, spoken and written language do not share all of the same linguistic features. For example, main clause coordination is more common in spoken language across all ages than in written discourse (Perera, 1986, p. 500), while passivization is more likely to occur in written discourse than in spoken discourse.

Much of the research that compares spoken and written discourse compares spontaneous conversation to formal writing. These two forms of discourse represent two ends of a continuum between 'literary and spoken discourse'. Narratives that are constructed in a structured task fall somewhere between these two poles. Therefore it is reasonable to expect that narratives will have syntactic constructions that are found in both written and spoken modes.

From the literature reviewed above regarding possible connections between reading comprehension and children's ability to produce narratives, and Berman and Slobin's data on the developmental stages of certain aspects of children's narrative abilities, the following questions have emerged.

RESEARCH QUESTIONS

The question to be investigated is how normally achieving 8-year-old children construct narratives, and whether there is a relationship between their narrative ability and their reading comprehension.

Specifically:

1A) How do the children globally structure their stories, with regard to the inclusion of the plot components as outlined by Berman and Slobin (1994)? (Plot components include the onset of the plot, the unfolding of the plot, and the resolution of the plot).

B) How do these children compare with the 5-year-olds and 9-year-olds mentioned by Berman and Slobin?

2A) How do the children locally structure their narratives at the event level, with regard to the inclusion of event components found in adult narratives?

B) How do these children compare with the 5-year old and 9-year-old children described by Berman and Slobin?

3A) What methods do children use to syntactically coordinate clauses?

B) What percentage of the children's clauses are coordinated into multiclausal sentences as compared to single clause sentences?

4. What methods of 'event packaging' are employed by these children?

5. Is there a relationship between the children's ability to construct narratives and their reading comprehension?

RESEARCH HYPOTHESES

From the above questions the following hypotheses have been formed.

1. With regard to the inclusion of plot components, the children in this study will perform at a transitional level between the 5-year-olds and 9-year-olds described by Berman and Slobin. However it is expected that the children's performance will more closely resemble the 9-year-olds' narratives.

2. With regard to the inclusion of local event components, the children in this study are expected to perform at a transitional level between the 5-year-olds and 9-year-olds described by Berman and Slobin. Again, it is expected that more children will perform like the 9-year-olds than like the 5-year-olds.

3A) Higher reading comprehension scores will correlate positively with the inclusion of more plot components.

B) Higher and lower reading comprehension scores will correlate differently with different configurations of event components. (Klecan-Aker & Caraway, 1997; Feagans & Short, 1994; Cain & Oakhill, 1996; Barnhart, 1992)

4A) Higher reading comprehension scores will correlate positively with the percentage of clauses that are coordinated into multiclausal sentences.

B) Higher and lower reading comprehension scores will correlate differently with different configurations of syntactic methods employed to coordinate clauses into multiclausal sentences.

C) Higher and lower reading comprehension scores will correlate differently with different methods used to 'package events'. (Klecan-Aker & Caraway, 1997; Feagans & Short, 1984; Barnhart 1992, Westby, 1986)

Chapter 2

Method

OVERVIEW

One purpose of this study was to examine the ability of young school-age children to construct narratives based on the wordless picture book Frog, Where Are You? (Mayer, 1969), specifically the ability of the 8-year-old children to construct the overall plot and to linguistically 'package' local events. The second purpose was to discover whether there is a correlation between the children's ability to construct spoken narratives and their reading comprehension. This project followed narrative collection methods as outlined in Berman and Slobin, (1994).

PARTICIPANT SELECTION

Narratives were elicited from 14 children, 8 of whom were part of a study of 5-year-olds' narratives conducted by Karen Hanford in 1996. Some of the children were also part of narrative studies of 3 and 4-year olds' (Gibney, 1995, and Gomme, 1994). The criteria for inclusion in the study were that the children be:

- (1) between the ages of 8;0 to 8;11 inclusive;
- (2) native speakers of English;
- (3) free of known physical, mental, or emotional handicaps; and
- (4) developing language normally.

Two original participants were removed from the final analysis because they did not meet the study criteria. Two children who were ages 9;1 and 9;2 were included in the final analysis as they met the age criteria when the study was initiated, but their birthdays fell within the time of the study. The participant pool was split evenly between children who were in grade 2 and children who were in grade 3, to balance the children's opportunity for exposure to

TABLE 1
Age and Grade of Participants.

Participant Code	Age (y/m/d)	Grade
C01	8;9.2	3
C03	8;10.2	3
C04	8;3.15	2
C05	8;3.0	2
C06	8;9.21	3
C07	8;3.14	2
C09	8;11.25	3
C10	8;4.24	2
C11	8;4.12	2
C12	9;2.0	3
C13	9;1.19	3
C14	8;2.6	2

Participant codes were assigned based on the order in which the children were interviewed.

both literacy activities and narratives. This is in contrast to Berman and Slobin (1994), who did not differentiate children by grade level.

DATA COLLECTION

Narrative Elicitation

The narratives were collected using methods similar to those employed by Bamberg (1987) and Berman and Slobin (1994). The wordless picture book, Frog, Where Are You? by Mercer Mayer (1969) was used to elicit narratives. The same book has been used by various linguists (see Berman & Slobin, 1994, and Bamberg 1987) to elicit and analyze children's narratives. The children were visited in their homes by the student researcher. Initially the researcher spent some time getting to know the children and ensuring that they were comfortable with her. At this point the general outline of the study tasks was explained to the children and they were told that they could withdraw from the study at any time. The children were then asked to look through Frog, Where Are You? until they felt they were ready to tell the story. Once the children felt they were ready, they were asked to relate the story to the interviewer. The children's stories were tape recorded. To give the children the opportunity to tell their best story possible, they were allowed to retell the story if they wished. Other than neutral

comments (e.g. “yes,” “I see,” “uh-huh”), no other feedback was given to the children during their narration.

The picture book was then left with the children for one week. The children were asked to “read” the book with their parents four times between the first and second interview. The researcher then visited each child a second time to record the final story telling. The same story elicitation method was used as in the first session.

The use of Frog, Where Are You? to elicit narratives provides a longer more elaborate sequence of pictures than is usually employed by researchers to elicit narratives (e.g., Klecan-Aker & Caraway, 1997; Weber, 1990). Frog, Where Are You? involves several characters acting simultaneously but independently, and the pictures are presented in storybook fashion. Therefore, Frog, Where Are You? requires the children to process the outcome of the story across several pictures involving several subplots (Berman & Slobin, 1994, p. 41). Berman and Slobin noted that, due to its complexity, Frog, Where Are You? allows for continued development with regard to narrative structure, organization, and use of linguistic forms well into adulthood (p. 41).

Reading Assessment

During the second interview session the children were asked to complete the subtests of the Gates-MacGinitie Reading Test (MacGinitie & MacGinitie, 1989) to assess reading comprehension. This same test was used in studies by Barnhart (1992) and Cain and Oakhill (1996). This assessment measures both vocabulary knowledge and reading comprehension. Vocabulary knowledge is assessed by giving the children a vocabulary word in the context of a sentence. The children are then asked to select a word with a similar meaning from a choice of four words listed below the stimulus word. The reading comprehension portion of the assessment requires the children to answer comprehension questions about various sections of written text. The text provided includes various genres such as narratives, expository text, and poetry. The comprehension questions probe inferencing ability, as well as comprehension of

the main ideas in the text. The administration and scoring of the tests were as outlined in the test manual. Subtests of the Gates MacGinitie Reading Test are available for each grade level. In this study the Level Three subtests were administered, which are the subtests for third grade children. Although there were children in grade 2 and 3 in the study, only one test was administered to allow for a uniform baseline of comparison. The Level Three subtest was chosen to control for possible ceiling effects from the third grade children. Moreover, as this study was conducted late in the school year and during summer break, it was felt that it would be appropriate for the second grade children. As the children were from two different grades, standard scores could not be used to compare results. However, it was possible to use both raw scores and grade equivalent scores for comparison.

Recording and Transcription

The stories were recorded on high fidelity tapes using a Marantz, model PMD420, and a lapel microphone Samson remote, with a Samson VHF ST-2 audiotransmitter. For transcription audiotapes were played on a TASCAM 112 audio cassette recorder over Sennheiser HD 52011 headphones.

Transcriptions were carried out using conventions of the CHILDES database format. Transcription followed the same format as specified in Berman and Slobin, 1994. The narratives were transcribed in standard orthography. Each clause was entered on a new line of text. Clauses were defined as units that contain a unified predicate. Clauses were made up of a single verbal element; however, infinitives and participles that function as complements of modal or aspectual verbs were included with matrix verbs as single clauses (Berman & Slobin, p. 660).

Three passes were made of the original transcription to ensure accuracy. A fourth pass was made one month after the stories were transcribed to ensure accuracy and to confirm coding decisions.

Each participant's second story was chosen for analysis unless it was obviously worse than the first story. The best story was then chosen on the basis of plot components. As a group, the children's performance was analyzed on the narrative elements mentioned below. Additionally the children were separated into two different comparison groups. The children were grouped according to grade level. They were also grouped based on their performance on the reading measure. It was predicted that the children would fall into 'higher level' and 'lower level' reading comprehension groups, where the higher level was expected to be above grade level and the lower level was expected to be at grade level. This prediction was made due to the participant selection criterion that the children be developing language normally. Thus, reading difficulties were not expected.

CODING

Each transcript was coded for six categories: global plot components, local event structure, clauses in sentences, number of clauses in multiclausal sentences, syntactic structure used to coordinate multiclausal sentences, and event packaging. Coding reliability was insured through comparison of all codes in three stories with an independent coder. Intercoder reliability was above 90% for all categories except event packaging, where reliability was 85%. This was felt to be an acceptable level of reliability. Coding discrepancies were resolved through discussion.

Global Plot Components (PCM)

Each story was analyzed for the inclusion of three basic plot components as outlined by Berman and Slobin. This was used as a general measure of story structure. The three core plot components are the onset, unfolding, and resolution. The onset of the plot begins when the boy realizes that his frog is missing. The unfolding of the plot involves the boy's search for his missing frog. The resolution occurs when the boy finds the frog he has lost, or takes another home to replace it. (Berman and Slobin, p. 47). Scoring requirements for each element were taken from Berman and Slobin and are described below.

Onset of the plot (ONST). This category was divided into either 'strong' or 'weak' evidence for onset of the plot. To be coded as 'strong onset', explicit mention of the boy noticing his frog is missing was required, following Berman and Slobin's 1994 criterion. However, if the goal could be inferred from the child's statements, that is, that he or she understood that the boy knew the frog was gone, then the event was scored as 'weak evidence for onset', following Trabasso and Rodkin (1994). Examples of coding for onset are as follows:

(1) ONSET:STRONG

C06: *In the morning when the little boy woke up, he looked at the jar and the frog was gone, and he hasn't realized it yet but he forgot that he had left his window open.*

(2) ONST:WEAK

C10: *In the morning he couldn't find his frog.*

In the second example there is no mention of the boy looking in the jar or noticing that the frog is missing. However, as the boy begins to search for the frog, it can be inferred that he has noticed its absence.

Unfolding of the Plot (UNFL) For this category to be scored, explicit mention of the boy searching for his missing frog was required. Moreover, mention of the boy looking for the frog had to go beyond the initial search for the frog in the bedroom. In other words, the child had to mention that the boy was searching for the frog when he was in the forest. The mention of the search draws the listener back to the overall theme of the story (Berman & Slobin, 1994, p. 46).

(3) UNFL

C05: *next the boy goes out with his dog and calls [FOR THE FROG] from the tree near his house into the woods.*

(4) C05: *now the little boy is up in a tree and looking and calling for the little frog.*

Resolution (RESL). For a narration to receive credit for a resolution the child must describe the frog that the boy takes home at the end of the story as either his frog or a substitute for his missing frog. The first example by C06 below would be coded as a resolution, but the second example by C04 would not be coded as a resolution.

(5) RESL

C06: *and they find the frog that they were looking for. And they find a whole family of frogs. And so they get to keep one of the frogs.*

(6) [NOT CODED AS A RESOLUTION]

C04: *and they saw two frogs and a couple little frogs. They took Louise home. The end.*

The reason that C04's conclusion is not coded as a resolution is that the child did not explain in any part of the story who *Louise* is. Therefore, it is not clear from the narration whether Louise is the original frog, a substitute frog, or even if Louise is a frog.

Event Components (ECM)

Berman and Slobin outlined three events that show how children develop the ability to talk about events and infer relations between situations. In keeping with Berman and Slobin's analysis, I will examine two scenes that require explicit reference to different components of a complex event (p. 52). Two scenes will be analyzed for the inclusion of certain event components that are often included in adult narratives. These scenes were chosen as they are the same scenes which were analyzed by Berman and Slobin (1994, p. 53).

The first event is the scene in which the boy realizes his frog is missing. This scene is pictured on page 3, where the boy is lying on his bed with his dog, looking at the empty jar where the frog once was. Five possible components may be mentioned when relating this event:

1. WAKE: The boy wakes up.
2. TLOC: Temporal location, it is morning.

3. BOYR: The boy learns or realizes something.

4. JARE or FRGG: The jar is empty or the frog is gone.

(this will be considered the same category for purposes of analysis).

5. SACS: The subsequent action in the story (the boy gets out of bed to look for the frog), or affective reaction (the boy feels sad, surprised, worried).

Example 7 is from C09:

(7)	TLOC	<i>in the morning</i>
	WAKE	<i>when the little boy woke up</i>
	BOYR	<i>he looked and saw that</i>
	FRGG	<i>the frog was gone</i>
	SACS	<i>he decided to go look for him.</i>

The second scene is the deer deception event. This event is shown on pages 16 and 17 of the book. On page 16 the boy is shown standing on a rock, leaning on what appear to be branches. The next page shows the boy being carried on top of a stag's head. The event which the narrator must infer from this scene is that the boy, climbing on a rock to look for his frog, has leaned on deer's antlers that he has mistaken for branches, thus incurring the wrath of the deer, who carries him off. A developmental progression of children's ability to notice and adequately relay this event to a listener is as follows:

1. EVNM: The event is not mentioned.
2. USTE: The events are treated as an unrelated sequence of two events.
3. MIMP: The mistake is implied, or the fact that the boy is on top of the deer's antlers is treated as an accident. However no mention is made of the boy mistaking the deer's antlers for branches.
4. MEXP: The misperception is explicit; the child must mention that the boy thinks the deer's antlers are branches.

In example 8 below the event is treated as a sequence of two unrelated events. There is mention of the boy holding onto branches and the fact that he is on “somebody’s head,” but there is no mention of how the boy came to be on the deer’s head.

(8) USTE

C04: *as he was holding on to some branches, the dog came running back from all his stings and the head started to move, and he got stuck on top of somebody’s head.*

Examples (9) and (10) are both coded as ‘MIMP’ (mistake implied). In the first case the boy landing on the deer’s head is treated as an accident, but no mention is made of the fact that the boy thought the branches were antlers. In example (10) the child implies that the boy knows he is holding on to deer’s antlers when he climbs on to the rock.

(9) MIMP

C02: *He climbed up a rock and called, but behind that was a deer and [it] picked him up and ran right off.*

(10) MIMP

C08: *He climbed on a rock, and held on to some reindeer antlers, when the reindeer lifted his head, he got stuck between the antlers.*

In example (11) the child explicitly mentions that the boy has mistaken the deer’s (elk’s) antlers for tree branches.

(11) MEXP

C01: *the boy climbed on a rock and grabbed hold of what he thought were sticks, but they weren’t. They were elks’ antlers. So there he was riding on top of an elk.*

There were no children in the sample who did not mention the deer event at all.

Coding of Multiclausal Packaging (CIN)

As noted earlier, ‘packaging’ refers to the way in which events can be encoded as multiclausal constructions. The children’s syntactic packaging of clauses were analyzed in three ways as explicated by Berman and Slobin (1994, pp. 539-544). First, the number of clauses that were

combined into syntactic packages (as compared to free clauses) was calculated. Second the number of clauses per package was calculated. Third, the linguistic means that children use to combine clauses into 'packages' were analyzed. The five methods of combining clauses as identified by Berman and Slobin guided this analysis (p. 539). These types of packages are described and exemplified in 12-16:

1. NULL: Coordination in which same-subject clauses are joined by *and*, with a null subject in the second clause.

(12) C01: *the frog jumped out of the jar and \emptyset ran away*

2. VGBP: Verb gapping. The predicate and/or tense bearing auxiliary is absent for the second subject.

(13) C05: *the boy tumbled off his head; so did the dog.*

3. FINL: Finite linking. Clauses are linked by subordinating or nonsubordinating conjunctions with a finite verb in the conjunct clause. This category includes adverbial clauses marked by temporal or logical connectives.

(14) C01: *The boy was too busy to notice because he was looking in a hole*

4. NONF: Nonfinite linking. These are gerundive or infinitival constructions.

(15) C01: *The boy even went into the woods still calling.*

5. RELT: Relative clause. All types of relative clauses were coded, including restrictive and nonrestrictive, as well as headless relatives.

(16) C01: *he was looking in a hole which contained nothing but an old forest owl.*

Coding of Events (EVENT)

Packaging of clauses occurs at the sentence level. Events are described as smaller than episodes, but larger than an individual act. Events are classified as "changes of state or location with a clear beginning or end relevant to the plot carried out within a delimited space-time frame" (Berman and Slobin, 1994, p. 516). An event may move across pages in the story. In the frog story more than one event can occur at any given time. For the purposes of analysis

in this study, I broke Frog, Where Are You? into eleven events. In general these were based on the events described by Berman and Slobin, however, in scenes where events were not specified I conceptualized an event as showing a character as either moving across time or space. These events were used as guidelines within the children's transcripts. The only time they were used for analysis was in events 2 and 9.

1. The Frog's Escape: While the boy and his dog are asleep the frog is shown escaping from the jar. (p. 2)
2. The Boy discovers the frog is gone: This is pictured on page 3. The boy is shown on his bed looking at an empty jar. (p. 3)
3. Entry Into The Jar: This depicts the dog getting his head stuck in the jar. (p. 4)
4. Broken Jar Event: The dog falls out the window and the jar breaks. (pp. 6-7)
5. The Beehive Falls Down: The dog barks at the beehive and shakes the tree causing the beehive to fall down. (pp. 8-12)
6. The Bee Event: The bees chase the dog. (pp. 14-15)
7. The Gopher Event: The boy searches for his frog in a gopher's hole. The gopher comes out and bites his nose. (pp. 10-11)
8. The Owl Event: The boy searches for the frog in a tree, disturbing an owl, who scares him causing him to fall out of the tree. (pp. 13-16)
9. The Deer / Deception: The boy climbs a rock in search of his frog. He leans on a deer's antlers, mistaking them for tree branches. The boy gets caught in the deer's antlers. (pp. 16-18)
10. The deer carries the boy to the edge of the cliff. The boy and the dog fall into the pond. (pp. 19-20)
11. The boy and the dog find the frog (pp. 23-26).

Coding for Event Packaging (PCC)

Event packaging requires two processes. First, events must be analyzed into two or more components. Next, clauses must be organized hierarchically. Berman and Slobin suggested four developmental levels of event packaging. These are (1) temporal packaging, (2) causal packaging, (3) constituent packaging, and (4) event complexes (1994, p. 545).

Temporal packaging involves clause combinations that relate two components as being sequential or simultaneous in time. Causal packaging is the combining of clauses to show a causal connection between two situations. Development also occurs within levels of packaging. Younger children often use temporal packaging to encode sequential relations or simultaneity of events. Older children, however, use temporal packaging to encode foreground and background information. Development also occurs within the level of causal packaging. Younger children are able to note physical causality, but older children often encode characters' emotions as motivation for actions or events.

Constituent packaging involves the analysis of one event into constituents that make up the event. The relationship between the constituents is neither causal or temporal. Instead each constituent is one phase of a single event, e.g., *He started calling, thinking he'd come* (Berman & Slobin, 1994, pp. 548). Event complexes involve a higher level of organization from the other types of packaging. Several units are combined into what Berman and Slobin describe as a 'macro-event or 'mini-episode'. Thus clauses are combined to express the relation between more than one small event, to create a larger 'macro-event' (p. 552). According to Berman and Slobin's criteria, an event complex involves several events contained in one complex sentence (p. 552). Any event package which contained three or more clauses that were subordinated to a main clause were considered event complexes.

The children's event packages were assigned codes based on definitions from Berman and Slobin (pp. 549-553) and are exemplified in 17-24:

1. TEMP:SIML: Simultaneous packaging. Two components of an event are marked as occurring simultaneously.

(17) C06: *The boy was looking in a gopher's hole at the same time the dog was barking at the bees.*

2. TEMP:SEQL: Sequential packaging. Two components of an event are marked as occurring sequentially.

(18) C06: *and after the dog dances around the bees' nest a couple of times, it falls down.*

3. TEMP:BACK: Backgrounding. One component of an event is subordinated to another, to provide background information for the ongoing events.

(19) C01: *One night when he [the boy] was sleeping, the frog jumped out of the jar.*

4. CAUS:PHYS: Events are encoded to show physical causality between two components of an event.

(20) C09: *The frog crept out of the jar because he [the boy] did not put a lid on it.*

5. CAUS:EMOT: Events are encoded to show insights into characters' motivations for events.

(21) C01: *The owl kept annoying the boy so he climbed up on some rocks .*

6. CONT. Constituent Packaging: Two constituents encoded as one phase of an event. As noted, this is different from two events occurring at the same time.

(22) C12: *he was very surprized to see that Jump had escaped.*

7. EVCO: Event Complexes. Event complexes were coded as any package of three or more coordinated clauses which are subordinated under a main clause.

(23) C09: *The boy quickly started getting dressed and then he thought maybe the frog went into one of his boots, so he looked in them.* (EVCO TEMP:SEQL CAUS:EMOT)

Event Complexes were coded independently from, and additionally to, the other types of event packaging. The other forms of event packaging were coded as between-clause relations, but event complexes were coded in terms of the whole multiclause sentence. For

instance, in the example 23 above, the coding reflects the relations between each clause but also that the clauses are part of an overarching event complex.

ANALYSIS

Descriptive and statistical analyses of results were used within the study. Descriptive analysis was used primarily due to the small group of children in the study and the small number of utterances they produced. Where possible statistical analysis was used to enhance the descriptive results. As this research was exploratory, and the sample size was small, an alpha level of .1 was used for all statistical tests. This was done to ensure that any possible connections between the areas of analysis would be revealed.

Proportions were used to compare the children's use of plot components with the results from Berman and Slobin's (1994) study. Thus, the proportion of children who mentioned each plot component was compared to the proportion of children in Berman and Slobin (1994) who mentioned each plot component. In addition, the children's narratives were compared with the 5-year-olds' narratives in Hanford (1996), with specific attention to the six children common to both studies. Their use of plot components was compared individually across both studies. Difference between grades in terms of the children's use of plot components was also analyzed.

The use of event components was also compared between the present study and Berman and Slobin's study. For the event in which the boy realizes his frog is gone (event 2), the percentage of children who mentioned each of the five possible components was compared. For the deer deception event (event 9) the treatment of the scene was compared between the studies. For example, the proportion of children who explicitly stated that the boy mistook the deer's antlers for branches in this study was compared to Berman and Slobin's study.

The number of clauses coordinated into sentences was calculated and compared against the number of single clause utterances used by the children. Also calculated was the number of

clauses per sentence. This information was compared to similar information from Berman and Slobin.

As mentioned, the children were to be separated into two groups based on the results of their reading comprehension scores. However, the reading measure used was not sensitive to differences in reading ability between the children. As will be discussed in Chapter 3, there was not enough variation between scores to use the results of the reading assessment as a way of grouping children. Therefore, grade level was used as an indirect measure of literacy. Grade level was used for analysis to investigate the following narrative and syntactic abilities:

1. Plot Components: The number of plot components mentioned by each child was compared based on grade level.

2. Event Components: The first event to be analyzed was the scene in which the boy discovers the frog is missing (event 2). As noted above, Berman and Slobin described five possible event components that can be included by the narrator. These are (1) change of state (the boy wakes up), (2) temporal location (it is morning), (3) the boy realizes X, (4) the frog is gone, and (5) the subsequent action or affective reaction (p. 53). It is not necessary to mention all of these event components to have a complete telling of the event. Berman and Slobin noted that developmental changes occur with regard to the inclusion of certain components. Younger children almost always mention that the boy has woken up, whereas adults are more likely to mention the subsequent action taken by the boy (p. 54). To compare grade level with use of these event components, various configurations were developed, which were ranked ordered from the 'most complete' telling of this event to the 'least complete' telling of the event. A logical analysis of the event was done to decide the least number of components necessary for a complete telling, then various configurations of components were rank ordered from most complete to least complete, as follows:

1. WAKE/TEMP + FRGG/JARE + SACS
2. BOYR + FRGG
3. FRGG

4. SACS

The most complete telling includes either mention of the change of state (or temporal location), the fact that the frog has escaped or the jar is empty, and the subsequent action of events. It may contain more event components, but these components must be present to be classified as a complete telling of event 2. Change of state and temporal location were considered interchangeable because, unless otherwise stated, one state can be inferred from mention of the other. For example, if a child said that it was morning and then went on to describe the boy's search for the frog, it can be inferred that the boy is awake (unless the child explicitly mentioned the boy was still asleep). Moreover, a complete narration of this event does not require that the child specifically mention the boy noticing or realizing that the frog is gone. This is because it can be inferred from the boy's actions that he notices the frog is gone. This differs somewhat from Berman and Slobin's criterion for an onset to the plot, in which the child must specifically mention the boy's realization of the missing frog, but is consistent with Trabasso and Rodkin's (1994) interpretation. However, it is important to note (as in 2 above) that if a child does not describe the boy's subsequent action or affective reaction, it is necessary that he mention that the boy realizes the frog is gone. Each child was given a ranked score (1-4) depending on the event components he or she used to describe this scene which was then compared on the basis of grade level.

The second event to be analyzed was the event where the boy mistakes the deer's antlers for branches (event 9). There were four possible interpretations of this event suggested by Berman and Slobin: Either (1) no mention is made of the event, (2) the boy leaning on branches and being carried off by a deer are treated as unrelated, (3) the boy's mistake is implied but not stated, or (4) the boy's mistake is explicitly mentioned. Each child was assigned a number code based on interpretation of this event. This was then compared with the children's grade level.

3. Multiclaue Packaging: The percentage of multiclaue sentences used by each child was compared to the child's grade level to see if there was a correlation between the two. The

ways in which the children syntactically coordinated clauses was also compared to grade level. The different types of syntactic packaging were split into two groups. One group contained verb gapping, finite linking and null coordination. These types of clause coordination show the most development during preschool years (Berman & Slobin, 1994; Perera, 1986). The second group of syntactic coordination contained nonfinite linking and relative clauses. Both of these types of coordination are considered to be more linguistically mature or literate structures and develop throughout the school years (Perera, 1986). The proportion of use for each method of coordination was calculated, and then children were classified as being either 'high' or 'low' users of the more linguistically mature structures. Analysis determined whether a high score in the linguistically mature categories correlated with higher grade level.

4. Event Packaging: A similar method was used to compare event packaging according to grade level. The children were categorized as either 'high' or 'low' users of temporal backgrounding, causal packaging, or constituent packaging. These categories were then compared by grade level to see if higher grade level correlated with higher proportions of these types of event packaging.

Event complexes are independent from other kinds of event packaging. As noted earlier, event complexes are utterances that contain three or more combined clauses. The number of event complexes, used by each child was compared on the basis of grade level.

Chapter 3

Results

OVERVIEW

The intent of this study was to investigate how typically developing children construct narratives, and to compare that ability to reading comprehension. Research that compares the story telling ability of children with and without reading difficulties found that children who were better readers told qualitatively better stories. Better readers were also more likely to use more sophisticated linguistic structures within their narratives than poor readers. Five specific questions for investigation emerged from the review of the literature in this area as measures of narrative quality. These were:

1. How do 8-year-old children globally structure their stories?
2. How do 8-year-olds locally structure their narratives at the event level?
3. What methods to 8-year-old children use to syntactically combine clauses?
4. What methods of 'event packaging' are employed by 8-year-olds?
5. Is there a relationship between the above four abilities and reading comprehension?

In this study narratives were elicited from 14 children using the wordless picture book, Frog, Where Are You? (Mayer, 1969). Data from two children was not used in the study as they did not meet the study criteria. The children's reading level was assessed using the Gates-MacGinitie Reading Assessment (MacGinitie & MacGinitie, 1989). The narratives were analyzed based on four hypotheses derived from questions 1-4 above. The results of each analysis will be discussed individually in this chapter.

READING ASSESSMENT RESULTS

Prior to looking at the results of the study, it is important to note the general results of the reading assessment. Unfortunately the reading measure used, the Gates-MacGinitie Reading

TABLE 2
Reading Assessment Scores Reported as Raw Scores, by Child.

Reading Scores	Participants											
	C 01	C 03	C 04	C 05	C 06	C 07	C 09	C 10	C 11	C 12	C 13	C 14
Vocabulary	44	40	-	37	44	38	42	42	45	44	38	14
Comprehension	42	40	-	35	44	43	44	42	44	47	39	25
Total	86	80	-	72	87	81	86	84	89	91	77	39

Note: C04 was unable to complete the assessment. Differences between C14 and the other children which may have contributed to her receiving a lower score will be addressed in Chapter 4. However, a score of 25 was within normal range for her grade.

Assessment (MacGinitie & MacGinitie, 1989), was not sensitive to differences in reading ability for the children in this study. As shown on Table 2, the range of raw scores was 25-47 out of a possible 48, with most children receiving scores between 42 and 44. Moreover, the grade equivalency scores achieved by many of the children were well above their actual grade level. The range of grade equivalency scores was from grade level to 4.5 years above grade level. Second and third grade children were equally advanced with respect to grade level. Due to the lack of variation between the children's scores(except for C14), the reading test results could not be used as a variable for analysis in this study. It was, therefore, impossible to measure directly whether there was relationship between reading comprehension and narrative construction among the children in this study.

The children in this study did, however, have different experiences with literacy. As mentioned in the previous chapter, equal numbers of children were represented from the second and third grades. Children who are in third grade not only have had one more year of reading instruction than children in second grade, but they also are more likely to be at the stage where they are using reading to learn, as opposed to learning to read. Moreover, they have had more experience producing written text and, therefore, they have had more opportunity to use the grammatical structures that are associated with written text. Due to the different experience with literacy between grades, grade level was used as an indirect measure of literacy. For each question where a relationship between reading ability and narrative construction was investigated, grade level was used instead of a reading score.

NARRATIVE RESULTS

Hypothesis 1: With regard to the inclusion of plot components, the children in this study will perform at a transitional level between the 5-year-olds and 9-year-olds described by Berman and Slobin (1994), but more like the 9-year-olds.

The proportion of children who mentioned each plot component in Berman and Slobin (1994) and this study is shown in Table 3. Also compared are the results from Hanford's (1996) study of 5-year-olds' narratives, because six of the same children who participated in Hanford's study also participated in the present study as 8-year-olds.

With reference to component I (Onset of the Plot) the proportion of children who mentioned an explicit onset is slightly lower than Berman and Slobin's 5-year-olds and much lower than the 9-year-olds. The same number of children in this study, however, mentioned component I as in the study of 5-year-olds by Hanford (1996).

These results are based on Berman and Slobin's (1994) conservative method of scoring in which the children are required to explicitly mention that the boy notices the frog has escaped. A broader definition of this category by Trabasso and Rodkin (1994), which credits the child with the onset component if the frogs disappearance can be inferred without the child

TABLE 3
Number (and proportion) of Children Referring To Each Plot Component

Plot Component	Berman & Slobin 5-year-olds (N=58)	Hanford 5-year-olds (N=12)	Berman & Slobin 9-year-olds (N=58)	Present Study All Children (N=12)
I (Onset)	45 (.78)	9 (.75)	55 (.94)	9* (.75)
II (Unfolding)	30 (.52)	5 (.42)	57 (.98)	12 (1.0)
III (Resolution)	24 (.41)	4 (.33)	36 (.62)	10 (.83)

*Scored Using Berman & Slobin's (1994) criterion of explicit mention of goal. This number rises to 12 (100%) using Trabasso & Rodkin's (1994) criterion of inferable goal.

explicitly stating it was also coded (ONST:WEAK). In this case, all of the children received credit for an onset to the plot. The following examples illustrate the difference between an explicit or inferable onset.

(1 A) ONST:STRO (Explicit onset)

C12: *When Jason woke up in the morning, he was very surprised to see that Jump had escaped.*

(1 B) ONST:WEAK (Inferable onset)

C07: *When I woke up the frog was gone. [Next Scene] We looked everywhere.*

It is clear that C07 is aware that the boy has noticed or realized the frog's absence. Certainly her narration of the next scene confirms this. However, this utterance would not be coded as an explicit onset.

All of the children in this study mentioned the boy's initial search for the frog, which is the second component, or the unfolding of the plot. This compares well with the 9-year-old children in Berman and Slobin's data base, and the proportion is much higher than the 5-year-old children from both Berman and Slobin's and Hanford's studies.

The proportion of 8-year-olds in this study who provided a resolution to the plot (that the boy had found his original frog or a substitute frog) was .83. This is a higher proportion than both the 5-year-olds (.41) and the 9-year-olds (.42) in Berman and Slobin's data base. It is also a sizable jump from Hanford's 5-year-olds, where only .33 of the children provided a resolution.

Table 4 shows the number and proportion of 8-year-olds mentioning each plot component according to grade. Some differences can be found between second and third grade children in this study.

TABLE 4
Number (and Proportion) of 8-year-old Children Who Referred
to Each Plot Component, by Grade.

Plot Component	Second Grade Children	Third Grade Children	All Children (N=12)
I	4 (.67)	5 (.83)	9 (.75)*
II	6 (1.0)	6 (1.0)	12 (1.0)
III	4 (.67)	6 (1.0)	10 (.83)

*Berman and Slobin's criterion of explicit mention of the boy noticing the frog's disappearance.

Specifically, more third grade children (.83) provided an strong onset to the plot than second grade children (.67). The proportion of third grade children who provided a strong onset to the plot according to Berman and Slobin's criterion is higher than Berman and Slobin's 5-year-olds but still less than the 9-year-olds.

Differences are also seen between the second and third grade children in their use of plot component III. All of the third grade children provided a resolution to the plot, contrasting with .67 of the second grade children. The results for the children in second grade are closer to those of Berman and Slobin's 9-year-olds.

The number of children in this study who mentioned all of the plot components is compared in Table 5, to the number of children who mentioned all of the plot components in Berman and Slobin's study. The proportion of children who mentioned all of the plot components in this study falls between the 5-year-olds and the 9-year-olds in Berman and Slobin's study; however, the results of this study more closely resemble the 9-year-olds' performance.

TABLE 5
Proportion of Children Who Included All Three Plot Components
(I Onset, II Search, and III Resolution)

Berman and Slobin 5-year-olds' (N=58)	Berman and Slobin 9-year-olds' (N=58)	Present Study All Children (N=12)	
		<u>Grade 2</u>	<u>Grade 3</u>
		0.33	0.83
0.34	0.66	0.58	

Table 6 compares the inclusion of plot components by children at age 5 and 8 who participated in Hanford's (1996) study as well as the present study.

There does not appear to be a pattern of change with regard to component number I. Although some of the children who provided an explicit onset to the plot as 5-year-olds also included it at age 8, C10 did not; C09 did not at age 5 but did at age 8, which is more in line with predictions. Noticeable change occurred, however, between age 5 and age 8 for most children in terms of their inclusion of component II. Only two out of the six children included component II (the boy's search for his missing frog) at age 5, whereas all of the children

TABLE 6
Comparison of Plot Components From Hanford, 1996 and the Present Study

Participant *	<u>Plot Component</u>					
	Component I		Component II		Component III	
	At age 5	At age 8	At age 5	At age 8	At age 5	At age 8
C01	√	√	√	√	-	√
C06	√	√	-	√	-	√
C07	-	-	-	√	-	√
C05	√	√	-	√	-	√
C09	-	√	-	√	-	√
C10	√	-	√	√	√	√

Note: The participant codes are from the present study, and differ from Hanford's child codes.

included it by age 8. In addition, there is a sizable increase in the number of children who included a resolution to the story. Only one child provided a resolution at age 5, but all of the children did by age 8.

To summarize, the children's use of plot components in this study differs somewhat from the children in Berman and Slobin, (1994). A smaller proportion of children in this study provided an explicit onset to the plot than the either the 5 or 9-year-old children in Berman and Slobin, although an onset could be inferred from all the stories. However, approximately the same proportion of children in this study as Berman and Slobin's 9-year-olds included component II. Finally, a higher proportion of the children provided a resolution to the plot than either Berman and Slobin's 5-year-olds or 9-year-olds.

Hypothesis 2: With regard to the inclusion of local event components, the children in this study will perform at a transitional level between the 5-year-olds and 9-year-olds described by Berman and Slobin (1994), but more like the 9-year-olds.

The event components which may be included in event 2 (where the boy discovers the frog is missing) are:

1. The boy wakes up (change of state).
2. It is morning (temporal location).
3. The boy realizes X.
4. The frog is missing or the jar is empty.
5. Subsequent action of events or emotional reaction.

Compared in Table 7 are the number of children in each study who mentioned each of the possible local event components for event 2. There are considerable differences between the English-speaking children in Berman and Slobin's data base and the children in this study. Overall, a higher proportion of children in this study mentioned each event component when compared to both 9-year-olds and 5-year-olds in Berman and Slobin's data base. Moreover, half of the children in the present study mentioned the first component, the boy waking,

TABLE 7
Number (and Proportion) of Children Who Refer to Each Event Component for Event 2.

Event Component	Berman & Slobin 5-year-olds (N=12)	Berman & Slobin 9-year-olds (N=12)	Present Study (N=12)
1 Wakes Up	-	-	6 (.50)
2 Morning	4 (.33)	2 (.17)	8 (.67)
3 Realization	7 (.58)	4 (.33)	9 (.75)
4 Frog Gone	-	6 (.50)	12 (1.0)
5 Reaction	-	-	7 (.58)

whereas none of the 5-year-olds or 9-year-olds mentioned this component in Berman and Slobin. The other area of difference is component 5 (the subsequent action or affective reaction). None of the 9-year-olds or 5-year-olds in Berman and Slobin's data base mentioned component 5, yet .58 of the children in the present study mentioned this component.

There are also differences in the way that the children in this study treated the deer deception event (event 9) compared to the children in Berman and Slobin's study. There were four possible interpretations of this event:

1. The child could ignore or not mention the event.
2. The child could treat the sequence as two unrelated events.
3. The child could treat the boy landing on the deer's head as a mistake and/or an accident.
4. The child could explicitly mention that the boy mistook the deer's antler's for branches.

The majority of the children in present study explicitly mentioned that the boy had mistaken the deer's antlers for branches. This compares with only .12 of the English and Hebrew speaking 9-year-olds in Berman and Slobin's (1994) study.

TABLE 8
Treatment of The Deer Deception Event
In Berman and Slobin, 1994, and The Present Study, by Number (and Proportion)

Treatment of Event	Berman & Slobin 5-year-olds (N=24)*	Berman & Slobin 9-year-olds (N=24)	Present Study (N=12)
1. Event Not Mentioned	2 (.08)	1 (.04)	0
2. Event Treated as Two Unrelated Sequence of Events	17 (.71)	10 (.42)	3 (.25)
3. Mistake Implied	2 (.08)	10 (.42)	1 (.08)
4. Mistake Explicit	2 (.08)	3 (.12)	8 (.67)

* Berman and Slobin report data for English and Hebrew speakers only.

To summarize, the children in this study did not perform at a transitional level between the 5-year-olds and 9-year-olds in Berman and Slobin's study with regard to the inclusion of local event components. Rather, a higher proportion of children included all event components for event 2 in this study than the 9-year-olds in Berman and Slobin's study. In addition, proportionally more children explicitly marked the boy's mistaking the deer's antlers for branches in the Deer Deception Event.

Hypothesis 3A: Higher levels of reading comprehension will correlate positively with the inclusion of more plot components.

As mentioned, grade level was used as an indirect measure of reading ability as the children's results on the reading measure used did not show enough variation.

All of the children included at least two plot components in their narratives. Table 9 compares the number of children by grade who included either all three of the plot components, or only two of the plot components.

TABLE 9
Number of Children, by Grade, Who Referred
to Two or All Three Plot Components.

	All Three Plot Components	Two Plot Components
Grade 2	2	4
Grade 3	5	1

(Pearson Chi Square $p < .1$)

As can be seen, more children in grade 3 than in grade 2 included all of the plot components.

A Pearson Chi Square analysis showed a significant association between grade and number of plot components included.

Hypothesis 3B: Higher and lower reading ability scores will correlate differently with different configurations of event components.

The first event to be analyzed is Event 2, where the boy discovers the frog is missing. Two different configurations of event components were developed based on the logical association between the components. Configuration 1 includes the minimal components required for a complete description of this event. These minimal components are: (1) inclusion of temporal location or change of state, (2) mention that the frog is gone, and (3) mention of subsequent action or affective reaction. Configuration 2 includes any pattern that does not contain all of the three components in configuration 1. These configurations differ somewhat from those proposed in Chapter 2. Originally four possible patterns were proposed:

1. Temporal location and/or Change of State + Mention of the missing frog (FRGG/JARE) + Subsequent Action of events or emotional reaction (SACS) (Configuration 1 as outlined here),
2. Boy realizes X + Mention of the missing frog or empty jar (FRGG/JARE),
3. Mention of the missing frog or empty jar (FRGG/JARE),
4. Description of Subsequent action or emotional reaction (SACS) without mention of the other components.

When the results were compiled, however, the number of children in categories 2-4 was very small. Therefore, these categories were collapsed for the purpose of analysis. Table 10 compares the configuration of event components by grade.

Although more children in grade 3 than in grade 2 mentioned the event components necessary for the first pattern, a Pearson Chi Square analysis does not show a significant association between inclusion of event components in this story and grade level ($p > .1$). There is, therefore, no indication that overall, second-grade children perform differently in the construction of this event than children in third grade.

It was noted that children in this study performed differently from children in Berman and Slobin's study with regard to their treatment of Event 9, the deer deception event. Table 11 compares the treatment of the deer deception event in narratives of children in second and third grades.

TABLE 10
Configuration of Event Components, by Grade

	1 (Includes all required components)	2 (Configurations 2, 3, and 4 Collapsed)
Grade 2	2	4
Grade 3	4	2

(Pearson Chi Square $p > .1$)

TABLE 11
Second and Third Grade Children's Treatment of Event 9 by Number (and Proportion)

Treatment of Event	Second Grade Children (N=6)	Third Grade Children (N=6)	All Children (N=12)
Event Not Mentioned	0	0	0
Event Treated as Two Unrelated Sequence of Events	1 (.17)	1 (.17)	2 (.17)
Mistake Implied	1 (.17)	0	1 (.08)
Mistake Explicit	4 (.66)	5 (.83)	9 (.75)

As can be seen, there was little difference between the number of children in second and third grade who explicitly mentioned that the boy has mistaken the deer's antlers for branches. Overall a relationship could not be confirmed between grade level and inclusion of local event components.

Hypothesis 4A: Reading ability will correlate positively with the percentage of clauses that are coordinated into multclause sentences.

Berman and Slobin (1994, p. 541) found that children's use of multiclausal constructions increased developmentally. They found that the mean proportion of clauses in 'packages' or in multclause sentences was 29% for English speaking 5-year-olds and 38% for 9-year-olds. The mean percentage of clauses in multclause sentences in this study was 76%, which is considerably higher. In fact, it is a higher percentage than was found for the adults studied by Berman and Slobin, who had a mean percentage of 60% of clauses in packages. A comparison of use of multiclausal constructions by grade, as shown in Table 11, revealed little difference between grade 2 and grade 3 children. A Mann Whitney U test was used to confirm the descriptive results

The results of the analysis did not show a significant association between grade level and percentage of clauses combined into sentences..

TABLE 12
Percentage of Packaged Clauses by Grade

	Proportion of Packaged Clauses
Grade 2	74.8%
Grade 3	78.6%

(Mann Whitney U -U =16.00 p-level =.748 p > .1)

Note: ArcSin was used for percentages due to the peculiarities of percentage distributions.

Hypothesis 4B: Reading ability will correlate positively with more sophisticated methods of syntactic coordination.

The methods employed by the children to syntactically package sentences generally fell into two categories. Finite linking, null coordination, and verb gapping were considered to be 'less sophisticated' methods because these usually show the most development in the preschool years (Berman & Slobin, 1994, p. 542). Relative clauses and nonfinite linking were considered to be more sophisticated methods of syntactically coordinating sentences because they emerge later developmentally and are often associated with written text (Berman & Slobin, 1994, p. 542; Perera, 1986, pp. 503-505). Table 13 shows the number of clauses joined by the two types of syntactic packaging employed by each participant. Overall, the children most often chose to use finite linking and null coordination to link clauses. As expected, the use of the more 'sophisticated' methods of clause coordination were relatively rare.

TABLE 13
Types of Syntactic Packaging Employed by Each Participant:
Number (and proportion) of Utterances

Participant	Types of Syntactic Packaging	
	Verb Gapping, Finite Linking, and Null Coordination	Relative Clauses and Non-finite linking
C01	11 (.78)	3 (.21)
C03	18 (.86)	3 (.14)
C04	16 (1.0)	0
C05	21 (.82)	5 (.19)
C06	32 (.97)	1 (.03)
C07	8 (.73)	3 (.27)
C09	34 (.97)	1 (.03)
C10	13 (.87)	2 (.13)
C11	31 (.86)	5 (.14)
C12	24 (.80)	6 (.20)
C13	19 (.95)	1 (.05)
C14	12 (1.0)	0

To compare the difference between grades the children were placed in groups based on whether they were considered to have 'high use' of relative clauses and nonfinite linking or 'low use'. High use was classified as .13 or more of total syntactic packaging employed and low use was considered to be less than .13. A cutoff of .13 was chosen because this was the approximate median. Below are two narrations of the same scene using multiclaue sentences. In example (2) the child is using nonfinite linking to join the clauses, in example (3) the child is using a single clause sentence.

(2) C12: *While all this was happening, Jason was in a tree, looking in a little hollow entrance.*

(3) C11: *The little boy was looking through small hole <in the>[!] in a hollow tree trunk.*

Shown in Table 14 are the number of children in each grade who were classified as having either 'high' or 'low' use of relative clauses and nonfinite linking. A Pearson Chi Square Test revealed no significant association between grade and high or low use of relative clauses and nonfinite linking ($p > .1$). In fact, one more child in second grade than in third grade used more 'sophisticated' syntactic packaging. These results must be considered with regard not only to the small number of children in the study but also the small number of utterances which contained these 'linguistically mature' constructions. The highest level of use was achieved with only four 'linguistically mature' constructions. Once again, the children most often relied on finite linking or null coordination to combine clauses.

TABLE 14
Number of 'High Users' and 'Low Users' of Nonfinite Linking
and Relative Clauses, by Grade

	High	Low
Grade 2	4	2
Grade 3	3	3

(Pearson Chi Square $p > .1$)
('High use' = $> .13$; Low use = $< .13$)

TABLE 15
Types of Event Packaging Employed by Each Participant
Shown as Number (and Proportion) of Multiclaue Utterances

Participant	Types of Event Packaging				
	Temporal: Simultaneous and Sequential	Temporal: Backgrounding	Causal: Physical	Causal: Emotional	Constituent
C01	3 (.21)	3 (.21)	1 (.07)	0	7 (.50)
C03	7 (.39)	2 (.11)	2 (.11)	1 (.05)	6 (.33)
C04	9 (.50)	6 (.38)	0	0	1 (.06)
C05	16 (.55)	1 (.04)	1 (.04)	2 (.07)	9 (.31)
C06	14 (.42)	8 (.24)	1 (.03)	0	10 (.30)
C07	9 (.45)	2 (.18)	1 (.09)	0	3 (.27)
C09	8 (.35)	2 (.09)	1 (.04)	4 (.17)	8 (.35)
C10	12 (.80)	0	0	0	3 (.20)
C11	11 (.26)	12 (.29)	6 (.14)	4 (.10)	9 (.21)
C12	9 (.32)	5 (.18)	0	3 (.10)	11 (.39)
C13	13 (.72)	3 (.17)	0	0	2 (.11)
C14	10 (.91)	0	0	0	1 (.09)

Hypothesis 4C: Reading ability will correlate positively with more sophisticated methods of 'packaging' events.

Shown in Table 15 are the types of packaging employed by the 8-year-olds shown by number and proportion of multiclaue utterances. With respect to event packaging, the children most often chose simultaneous or sequential packaging of events. However many children also used temporal backgrounding constituent packaging and created event complexes. It is interesting to note that relatively few instances of causal packaging occurred across the data base. This may be because the children opted to use constituent packaging to express relations between events.

It was expected that children in third grade children would be more likely to use temporal backgrounding than children in second grade as a method of 'event packaging'. This was because Berman and Slobin described temporal backgrounding as occurring later developmentally than the other types of temporal packaging, which are simultaneous packaging

and sequential packaging. In addition, backgrounding requires sophisticated language and syntactic structures. The following are two examples of different narrations of the same scene. In example (4), the child's use of "while" sets the upcoming event within the context of the event she has just narrated. In the example (5) the child narrates the scene as containing two sequentially occurring events.

(4) C12: *Splat the beehive fell down. The bees were angry. While all this was happening, Jason was in a tree, looking in a little hollow entrance and that was an owl's hole.*

(5) C10: *The bee nest fell, and the dog got chased away by the bees. The boy looked down the hollow tree, until an owl bumped him over.*

The children were placed in categories based on whether they were considered 'high' users of temporal backgrounding or 'low' users of temporal backgrounding, which was then compared by grade. Table 16 shows the results.

Although more third grade children were classified in the 'high use' group compared to second graders, a Person Chi Square does not reveal a significant association between the number of children who received a high score for temporal backgrounding and grade level.

Constituent packaging involves packaging of two phases of an event which cannot be said to be causally or temporally related. This method of event packaging was also felt to be 'sophisticated', because of the developmental levels described by Berman and Slobin, as well

TABLE 16
Number of 'High Users' and 'Low Users' of Temporal Backgrounding by Grade

	High	Low
Grade 2	3	3
Grade 3	4	2

(Pearson Chi Square $p > .1$) 'High score' = 15 - 40% 'Low Score' = <15%

as the sophisticated syntactic coordination required for constituent packaging (p. 547).

Compare the two different narrations of the of the same scene in examples (6) and (7) below.

(6) C11: *Even Murray helped. He looked in the jar. He got his head stuck in it.*

(7) C12: *Spot even looked in the jar, but instead of exactly looking he got his head stuck.*

In example 6 the child narrates the scene using three separate clauses. Depicting the events as occurring sequentially. In example (7) the child uses constituent packaging to convey the idea that the dog looking in the jar and getting his head stuck are two phases of the same event.

Table 17 shows the number of children in each grade who were classified as either 'high' or 'low' users of constituent packaging. Twenty-five percent was used as a cutoff between the children who were considered 'high' or 'low' users of constituent packaging, because this was the approximate median.

More children in grade 3 compared to children in grade 2 received a high score for use of constituent packaging. A Person Chi square analysis shows a significant association between use of constituent packaging and grade level ($p < .1$). Again, this result must be considered with reference to the small number of children in the study and the small number of utterances required to achieve a high score.

Event complexes are described by Berman and Slobin as the most sophisticated method of event packaging (p. 552). This is because the narrator is required to linguistically and hierarchically join a number of events in one syntactic package. It was expected that children in grade 3 would have a higher number of event complexes than children in grade 2. Example (8)

TABLE 17
Number of 'High Users' and 'Low Users' of Constituent Packaging by Grade

	High	Low
Grade 2	2	4
Grade 3	5	1

(Pearson Chi Square $p < .1$) 'High' score = 25-50% 'Low score' = $< 25\%$

is an example of an event complex from C12. The same scene is narrated in example (9) using two single clause sentences.

(8) C12: *When Jason opened the window to call Jump to see if he was there Spot, decided to climb out the window and have a little jump .*

(9) C14: *The little boy called the frog from out the window. The little puppy fell out the window.*

The narration of this scene in example (8) shows C12's ability to analyze the several different components of the event including the boy's actions and motivation, as well as the dogs actions, and then to synthesize each component into an overarching description.

Table 18 shows the number of event complexes used by each participant. The percentages were calculated by dividing the number of event complexes used by a child over his or her total number of multclause sentences. A Mann Whitney U analysis was used to confirm whether there was a significant difference in performance between grades. As can be seen in Table 18, there was a significant association between grade level and the percentage of event complexes used ($p=.1$). These results were again achieved using a relatively small number of utterances. The highest number of event complexes (three or more packaged clauses) produced by any child was 11 over 57 coordinated clauses.

TABLE 18
Number (and %) Event Complexes used by Each Participant

Participant	Number (and proportion of Event Complexes)*
C01	5 (.22)
C03	6 (.13)
C04	3 (.11)
C05	9 (.20)
C06	7 (.13)
C07	1 (.05)
C09	11 (.19)
C10	2 (.04)
C11	9 (.14)
C12	7 (.15)
C13	4 (.11)
C14	1 (.04)

Mann Whitney U test of significance $U=8.00000$ ($p=.1$)

*Number of Event Complexes/Total Number of Coordinated Clauses.

Note: ArcSin of % used for statistical analysis due to the peculiarities of percentage distribution

To summarize, grade level was used as an indirect measure of literacy level, to assess the relationship between reading ability and methods employed for the analysis and synthesis of events ('event packaging'). Grade level appeared to be associated with use of both constituent packaging and event complexes. A significant association was not noted between grade level and use of temporal backgrounding.

Chapter 4

Discussion

Two general questions were addressed by this study: (1) How do 8-year-old children construct oral narratives, and (2) Is there a relationship between the children's ability to narrate a story and their level of literacy?

In a crosslinguistic study of children's narratives, Berman and Slobin (1994) noted developmental changes in narrative structure and linguistic complexity from early childhood through to adulthood. Moreover, research has suggested that children who are better readers tend to construct qualitatively better narratives than children who are poor readers (Feagans & Short, 1984; Barnhart, 1990; Weber, 1990; and Klecan-Aker & Caraway, 1997). Additionally, certain linguistic structures have been associated with exposure to written text (Perera, 1986; Westby, 1989).

It was my intent not only to investigate the construction and packaging of narratives by 8-year-old children, but to attempt to correlate their narrative abilities with a direct measure of their reading comprehension. As noted, the Gates-MacGinitie Reading Test (MacGinitie & MacGinitie, 1989) was not sensitive to differences in ability between the children. Many of the second and third-grade children achieved similar raw scores, and with the exception of two children, most achieved a grade equivalent score that was at least one year above their actual grade level. Of the two children who fell outside the narrow range of scores achieved by the rest, one child received a score that was at grade level and the other was unable to complete the test.

Such a narrow range of high scores on this reading test may be an artifact of the methods used to recruit participants. As noted in the introductory chapter, part of the purpose of this study was to contribute to an ongoing, longitudinal narrative project at the University of British Columbia. As a result, 6 of the children in this study had been part of similar studies at ages 3, 4, and 5 years (Gomme, 1994; Gibney, 1995; and Hanford, 1996). Therefore, they

were familiar with narrative elicitation methods and having student researchers interview them. Moreover, the original sample of children was drawn from the Child Study Centre at the University of British Columbia. This was a preschool known for the richness of the literacy experiences it provided for the children. Other children in this study had also been at the Child Study Centre as well as participants in research studies and student projects. For these reasons the children in this study may have performed differently than a sample from a wider population of children.

The relatively low score achieved by C14 may also be due to the characteristics of this sample. It is important to note that the score achieved by this child was in the normal range for her grade, but C14 was one of the few children who had not participated in previous research studies. It was observed that it took this child somewhat longer to become comfortable with the narrative task, and she required more assurance that she was doing a 'good job'. It may be that the difference between this child's score and the other children's score was a reflection of their different experiences participating in research tasks.

As a result of the lack of variation between children in terms of their performance on the Gates-MacGinitie Reading Test, grade level was used as an indirect measure of literacy, for the purposes of this study.

SUMMARY AND DISCUSSION OF RESULTS

Hypothesis 1: Plot Components. The 8-year-old children were expected to perform at a transitional level between the 9-year-olds and 5-year-olds presented in Berman and Slobin (1994), but more like the 9-year-olds. Plot components include the onset, unfolding, and resolution of the plot. This hypothesis was partially supported by the results. The children performed as expected with respect 2 and 4 below, but not in terms of 1 and 3.

1. The proportion of children in the present study who provided an explicit onset to the plot was close to, but less than the proportion of the 5-year-olds in Berman and Slobin's study, who provided an explicit onset, and much less than the 9-year-olds. This result was obtained

following the Berman and Slobin's (1994) criterion for an onset which requires explicit mention of the boy's recognition that the frog has escaped.

2. The proportion of children in the present study who included an unfolding of the plot was approximately the same as the 9-year-olds in Berman and Slobin's study.

3. The proportion of children in this study who provided a resolution to the plot was higher than both the 5-year-olds and 9-year-olds presented in Berman and Slobin.

4. The proportion of children in the present study who included all three plot components was close to the proportion of 9-year-olds in Berman and Slobin's study who included all three plot components.

In some ways the children performed as expected (as in 2 and 4). However, with respect to the onset of the plot and the resolution there were differences from the expected outcome. The first difference was that the children in this study were less likely to include an explicit onset than either the 9-year-olds or 5-year-olds in Berman and Slobin's study. As noted, these results were obtained using Berman and Slobin's (1994) criterion for an explicit onset. This differs from Trabasso and Rodkin's (1994) criterion, which allows an onset to be credited if the goal can be inferred from the child's statements. Following Trabasso and Rodkin's criterion, all of the children in this study received credit for an onset. Example (1) below is an example of an explicit onset using Berman and Slobin's (1994) criterion; example (2) is an inferred onset following Trabasso and Rodkin (1994).

(1) C06: *In the morning when the little boy woke up he looked at the jar and the frog was gone.*

(2) C03: *In the morning they could not find <the jar> [/] the frog, I mean.*

Berman and Slobin's criterion for an explicit onset conflicts somewhat with their statements about the purpose of syntactic packaging (p. 539). They note that syntactically coordinating clauses to describe an event allows for information that may be inferred by the listener to be omitted by the narrator. Therefore, it is predictable that children as they develop

the ability to syntactically coordinated sentences, would omit the elements of this event that could be inferred by the listener.

More children in this study provided a resolution to the plot than the 9-year-olds in Berman and Slobin (1994). This may be a result of a difference in methodology between this study and Berman and Slobin's. In this study, following Bamberg (1987), the children were allowed to become familiar with Frog, Where Are You? for a week, and to practice "reading" it. This differs from the elicitation method employed by Berman and Slobin, who allowed a brief time within the recording session for the children to become familiar with the story. To narrate Frog, Where Are You? the children have to construct the complex story (involving several characters and subplots) from pictures, and then tell the story to a listener. As a result of their familiarity with the book, the children in this study may have been more likely to recognize that the frog at the end of the story was object of the boy's search.

Hypothesis 2: Event Components: The children in this study were expected to perform at a transitional level between the 9-year-olds and 5-year-olds presented in Berman and Slobin (1994) but more like the 9-year-olds. The results of the study did not support this hypothesis.

1. Event 2 (The boy discovers the frog is missing): A higher proportion of children in the present study included each of the five event components suggested by Berman and Slobin, than the 9-year-olds and 5-year-olds in their study. The five possible components were: (1) change of state, (2) temporal location (3) the boy realizes X, (4) the frog gone, (5) subsequent action of events.

2. Event 9 (The deer deception): By far, a higher proportion of children in the present study explicitly mentioned that the boy mistook thinking the deer's antlers for branches, than either the 9-year-olds or 5-year-olds in Berman and Slobin, 1994.

The results here may also be attributed to methodological differences between this study and Berman and Slobin's, mentioned above. As the children in this study were provided with an opportunity to practice reading the story over the course of the week, they were more likely

to notice each event component and linguistically encode it. With respect to the deer deception event, differences were noted between the children's first and second telling of the story. There were some children who explicitly mentioned the boy is mistaking the deer's antlers for branches in their second telling who did not do so in their first. However, two children failed to note the boy's mistake in either of their narrations. Additionally, a smaller sample of Berman and Slobin's children was used for comparison in this section as data was available for English and Hebrew speaking children only. This may have made a difference in the results, especially with regard to Event 2, component 3 (the boy's realization that the frog is missing) which is directly related to the onset of the plot. A lower proportion of English-speaking 9-year-olds provided an explicit onset to the plot than the proportion of children in Berman and Slobin's study overall.

Hypothesis 3A: Reading comprehension was expected to correlate positively with the inclusion of more plot components. As discussed at the beginning of this chapter, the narrow range of reading scores did not allow testing of this hypothesis as originally formulated. Because children's use of literate language can be predicted to vary as a function of their exposure to literacy, the hypothesis was reformulated as: Grade level was expected to correlate positively with the inclusion of more plot components. Hypothesis 3B, and 4A, B, and C were similarly reformulated. This reformulated hypothesis was supported by the results of this study.

Third grade children were more likely to include all three plot components compared to the second grade children, using Berman and Slobin's criterion. A statistically significant association was found between grade and inclusion of all plot components.

This result is consistent with literature which suggests that children who have had more exposure to written text are better at constructing narratives (e.g., Klecan-Aker & Caraway, 1997). However, these results must be weighed with caution. All of the children in this study mentioned at least two out of the three possible plot components. Therefore, the differences found were between children who mentioned two plot components or all three plot

components. As noted, if Trabasso and Rodkin's (1994) criterion had been employed, all of the children in this study would have been credited for an onset to the plot. Therefore, three more children would have been credited as mentioning all three plot components. As two of these children were in the second grade, the difference in results between the grades would have been significantly reduced.

Hypothesis 3B: Reading comprehension was expected to correlate with different configurations of event components. This was reformulated to: Grade level was expected to correlate with different configurations of event components. Evidence was not found to support this hypothesis.

1. As explained in chapter 3, two possible configurations of event components were developed for Event 2. Configuration 1 contained the components deemed necessary for a complete telling of the event (change of state or temporal location, mention of the absent frog, and subsequent action or emotional reaction); configuration 2 did not. Although a higher number of third grade than second grade children were credited with configuration 1, a statistical association was not shown.

2. In their narration of Event 9, the majority of the children (.75) made explicit reference to the boy mistaking the stag's antlers for branches. There was little difference noted between second and third grade children.

Again there are methodological considerations with these results. As the children in this study were allowed to practice reading the story over a week, both second and third grade children had greater opportunity to notice various event components and to practice encoding them linguistically. Also, since notice of the deer deception is more dependent on level of cognitive development than level of literacy development, and all of these children were within a narrow age range, the result is predictable.

Hypothesis 4A: Syntactic packaging. Reading comprehension was expected to correlate positively with use of multiclausal sentences. This was reformulated to: Grade level was expected to correlate positively with use of multiclausal sentences.

Overall, the percentage of clauses coordinated into multiclausal sentences was only slightly higher for third grade than second grade children. Moreover, the children across grades had a much higher percentage of multiclausal utterances than the children in Berman and Slobin's study. Results of previous studies have shown that children who were better readers were more likely to use complex sentence structures than children who were poor readers (Feagans & Short, 1984; Barnhart, 1990). However, a possible reason for the lack of difference in performance between second and third grade children in this study comes from Feagans and Short (1994). They observed that the children with normal language in their study showed less difference longitudinally than the language delayed children. They suggested that there may be a certain threshold of language development required to be a good reader, and the non-language delayed children in their study had reached this level earlier than the language delayed children and so they did not show as much change. It may be that both the second and third grade children in this study had reached the same 'threshold' of language development in terms of their use of multiclausal sentences.

Another possibility for the lack of association between grade level and use of multiclausal sentences may be a result of the children's familiarity with the story. This may also be the reason for the difference between these results and Berman and Slobin's results. In this study the percentage of multiclausal utterances was 74.8% for second grade children and 78.6% for third grade children. This differs from the percentage of multiclausal utterances used by Berman and Slobin's 9-year-olds, which was 38%. Coordination of clauses is used to show connections between events in narratives. As the children in this study were familiar with the story they had an opportunity to recognize the connections between events and encode them more easily than narrators who were less familiar with the story.

Hypothesis 4B: Reading comprehension was expected to correlate with different configurations of syntactic devices used to combine clauses into multiclausal sentences (syntactic packaging). This was reformulated to: Grade level was expected to correlate with different configurations of syntactic packaging. Nonfinite linking and relative clauses were considered to be 'linguistically mature' methods of syntactic packaging. The results of this study did not support this hypothesis.

There was not a statistically significant association between grade level and the use of relative clauses and nonfinite linking. This result is somewhat surprising, given the research in this area (such as that summarized by Perera, 1986, and Westby, 1989) which suggests that as children increase their exposure to literacy, they are more likely to use linguistically mature structures. However, it is important to remember that the children were compared based on the proportion, not the number, of certain syntactic structures used, due to the differences in narrative length. As the children could only choose one syntactic device to coordinate a clause, when the proportion of one type construction rose, the proportion of another would fall. If a child used a high proportion of one method of syntactic packaging, it does not mean that he or she could not use another method.

Furthermore, it is important to note that the measures of linguistic complexity coded here were not the only measures that could have been made. Perera (1986, p. 496) noted that nominal phrases --not analyzed in this study-- develop in complexity with exposure to written text. Additionally, elements such as the use of dialogue and use of anaphoric reference have been also seen as 'linguistically mature' or representative of literate language (Westby, 1989; Barnhart, 1990). Berman (1993), pointed out that adult narrators' use of syntactic coordination may be influenced by rhetorical choices. A narrator may choose to use different devices to highlight different aspects of the plot. The following is an example of one child's use of single clause sentences to create a certain rhetorical effect.

(3) C01: *In the morning the frog was gone. The boy couldn't find him anywhere. He looked under his boot. He looked under a chair. His dog even looked in the jar again.*

Here this child used single clause sentences to convey to the listener the boy's methodical search for the frog. This child is quite capable of syntactically combining several clauses as will be seen later in example (7), so it is inferred that she chose to use single clauses for rhetorical purposes.

Another element to consider with regard to the lack of association shown between grade level and use of nonfinite linking and relative clauses in this study is emerging use (especially among the third grade children) of event complexes. The creation of event complexes is also considered to be 'linguistically mature', as several clauses are hierarchically. It may be that, in order to use this emerging skill, the children sometimes had to use less complicated methods of coordinating clauses, because it was too difficult to combine several clauses and use sophisticated syntactic structures. Examples (4) and (5) illustrate this point. Finite linking is used to join several clauses. Both examples are excerpts from C09's narration. This child had the highest number of event complexes in the study.

(4) C09: *While he was sleeping, the frog crept out of the jar because he did not put a lid on it.*

(5) C09: *The boy quickly started getting dressed and then he thought <maybe he went into>[/] maybe the frog went into one of his boots, so he looked in them.*

Hypothesis 4C: Reading comprehension was expected to correlate differently with different methods of event packaging. This was reformulated to: Grade level was expected to correlate with different methods of event packaging. Specifically a higher grade level was expected to correlate with higher use of temporal backgrounding, causal packaging, constituent packaging and event complexes. This hypothesis was partially supported, as will be seen in 3 and 4 below.

1. Temporal backgrounding: There was not a statistically significant association between grade level and 'high' or 'low' use of temporal backgrounding as a method of event packaging.

Berman and Slobin describe temporal packaging in general as a lower developmental stage than the other methods of packaging. It is likely that all of the children in the present study had reached the same level of ability in terms of temporal backgrounding. Additionally, this study only compared the amount of temporal backgrounding used, not how backgrounding was used. As was noted in the introductory chapter, backgrounding is used to describe secondary events or setting in the story. C11's narration, below, attempts to coordinate the different activities of the boy and the dog that are pictured side by side in the illustrations of Frog, Where Are You?. Consequently, she has to continually shift perspective from the boy to the dog, which means she is continually moving one event into the foreground, while backgrounding the other.

(6) C11: *Then they went out in the forest, and called "frog where are you?" but at that moment Murray <was> [/] got interested in bees, that had caught his attention. He sniffed at them. And then there was a little hole near the ground, so the little boy, Henry, called "frog where are you?", while Murray was more concentrated on chasing the bees. Suddenly a little ground rat popped up, and bit his nose, while Murray was knocking around the beehive. Suddenly the beehive fell splat, on the ground, while the little ground rat watched. He giggled a bit. At that moment the little boy was looking through a small hole <in the> in a hollow tree trunk, calling "frog where are you?", while Murray looked at this fallen beehive. Then an owl popped of the hole in the hollow tree trunk, it was it's home.*

While this narration is true to the pictures, it is difficult for listeners to follow, especially if they do not have the book in front of them. C11 could have chosen to narrate each event individually all the way through and then refer to the next event, or (as will be seen in example 7) she could have left out some information that was not central to the advancing plot.

2. Causal Packaging: In general, causal packaging was rarely employed by either third or second-grade children. This may be because the children chose to use constituent packaging

more often. As with syntactic packaging, the children's use of event packaging was measured as proportions of use. Therefore, higher use of one type of packaging may result in a lower proportion of another method (e.g., higher use of constituent packaging may result in lower use of causal packaging).

3. Constituent Packaging: A statistically significant association was found between grade level and 'high' or 'low' use of constituent packaging.

4. Event Complexes: A statistically significant association was found between grade level and use of event complexes.

Both 3 and 4 were expected outcomes. These two types of event packaging (constituent and event complexes) require a relatively mature analysis of events. The children must see different event components as belonging to the same overarching event or plot structure. Additionally to encode both constituent packaging and event complexes children must use linguistically mature structures that are more common to written rather than spoken text. Compare the child's narration in example (7) below to C11's narration of the same events in example (6).

(7) C01: *The boy even went into the woods, still calling for the frog. He looked in a hole but nothing was there except for a mole (or whatever that is). Crash, down came a bee hive. The boy was too busy to notice, because he was looking in a hole which contained nothing but an old forest owl.*

Here the child's narration of the scene is much more concise and easy to follow (especially in print) than C11's narration above, yet it still conveys to the listener the central aspects of the events. This narration places more emphasis on creating a coherent and interesting story than being true to the details of the picture. This child did not describe all aspects of the events or setting for the listener instead; she allowed the listener to infer some aspects of the scene. This example is more like written text in that than a spoken conversation. It did not rely as much on the listener to be looking at same picture as the narrator, or to be as familiar with the story as C11's narration.

To summarize, this study analyzed five areas of children's oral narratives and attempted to show associations between these areas and the children's exposure to written text (as measured by grade level). The two areas that showed associations with grade level were the children's inclusion of all three plot components and event packaging; the inclusion of event components, use of multiclausal sentences, and syntactic packaging did not appear to be associated with grade level.

The fact that both event packaging, and inclusion of plot components showed an association with grade level may be due to the relationship between these two areas of narratives. It may reflect the children's growing awareness of the global organization of narratives and how events fit into that organization. The function of event complexes is to link unitary events to the overarching plot. That these two areas would show similar associations to grade level is not surprising. However, these areas could be considered to be less associated with children's language abilities than their cognitive ability to conceptualize and fit events into a plot. While this may not relate superficially to children's use of literate language, it does reflect their ability to organize and construct higher levels of discourse. While the second and third grade children in this study may have been at the same level in terms of their syntactic abilities, the third grade children may have been more able to use these abilities at higher levels of organization.

On the other hand, it is important to remember that using Trabasso and Rodkin's (1994) criterion of an inferable goal, there was not an association between grade level and the inclusion of all three plot components. Therefore, the only association left was between grade level and event packaging. If this association is in fact real, the question remains, why? Why is exposure to written text, or school exposure, related to children's ability to package events? One possibility is the way children use literacy as they progress through school. As mentioned earlier children who are in higher grades are more likely to be using reading to learn, as opposed to learning to read. Additionally, they are more likely to be creating their own written stories where they need to package events so that they relate to the plot. It may be that the third

grade children's use of event packaging is a reflection of their exposure to these kinds of literacy activities. This is an area which merits further research.

Although some of the outcomes of this investigation were expected, others were not. In general the results of the present study must be weighed against the small size of the sample and the homogeneity of the subjects. With regard to the children's reading ability, the measure used was not sensitive to differences between the children, but most of the children in the study performed at levels well above their expected grade level. As noted in the introductory chapter, higher quality narratives have been associated with higher levels of reading ability (Barnhart, 1990; Weber, 1990; Klecan-Aker & Caraway, 1997). Barnhart (1990) observed that children who were classified as reading above grade-level constructed qualitatively better narratives, and used more instances of 'literate language' than children classified as reading at grade level. With respect to the inclusion of plot components and event components, and use of linguistically mature methods of syntactic and event packaging, the children in this study constructed very mature narratives in relation to the children studied in Berman and Slobin. These results provide evidence to support research discussed earlier that showed an association between high levels of narrative ability and high levels of reading ability.

CONSIDERATIONS FOR FUTURE RESEARCH

In many ways the children in this study formed a relatively homogenous group. Over half the children were part of previous studies using the same wordless picture book. These children who were part of the original study, were all members of a preschool which known for its rich early literacy programs. Therefore, their intensive exposure to literacy activities would possibly have begun earlier than for children from different backgrounds.

Although data was not collected on the socio-economic status of the parents in the study, on the whole the children in this study appeared to come from middle class backgrounds. It would be interesting to replicate the study with children who were from more

heterogeneous social, and cultural backgrounds, and also with children who were less familiar with being participants in research studies.

Additionally, further avenues for research would be to compare children who are normally achieving readers with children who have difficulty reading, on the same measures of narrative construction and linguistic maturity investigated in this study. In order to accomplish this the sample of participants would have to include equal numbers of children who were classified as either good or poor readers. This type of study would have to be conducted within schools, where the researcher would have access to records of student's reading achievement, or the ability to conduct a complete assessment of children's reading levels.

As this study was part of a longitudinal study being conducted at the University of British Columbia, it will be interesting to see how particular children's use of 'literate language' develops over time.

Finally, as noted above the areas of linguistic complexity studied within the scope of this project were not the only ones that could be investigated. Other studies could compare other types of literate language such use of complex nominal phrases, dialogue, and anaphoric reference with children's reading abilities.

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APPENDIX I
Sample Story

Once there was a little boy who kept a frog <at> [/] in a jar at the foot of his bed.

One night <when he went to sleep> [/] when he was sleeping, the frog jumped out of the jar and ran a way. In the morning the frog was gone. The boy couldn't find him anywhere. He looked under his boot. He looked under a chair. <the dog> [/] His dog even looked in the jar again, but stuck his head too far in. So when the boy was calling out the window for the frog, crash, down came the dog and smash went the jar. The boy even went into the woods, still calling for the frog. He looked in a hole but nothing was there except for a mole (or whatever that is). Crash! Down came a bee hive. The boy was too busy to notice because he was looking in a hole which contained nothing but an old forest owl.

"Oh no look out dog."

"The bees are chasing you."

The boy climbed up onto a rock, and grabbed hold of what he thought were sticks, but they weren't, they were elks' [deer's] antlers. So there he was riding on top of an elk, but when they came to a hill, splash, in fell the boy and his dog.

"But wait, what is this?"

"I hear something."

"SHHH, be very very quiet."

"Another frog and little baby frogs."

The boy got to take one home.

The end.