THE DEVELOPMENT OF LANGUAGE AND LITERACY SKILLS IN
PRESCHOOL NARRATIVES

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The Development of Language and Literacy Skills in Preschool Narratives

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ABSTRACT OF THE THESIS

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Even before exposure to literacy instruction, many facets of language develop during the preschool period that bridge spoken and written language skills. Research suggests a productive way to measure linguistic development in early childhood is through oral narrative elicitation. Narrative production is a complex task that integrates cognitive, linguistic, and social components. Investigating oral narratives provides information regarding the type of language structures the child has acquired and can recruit in discourse. Narratives are also one of the first instances of decontextualized language in which children talk about non-present events. As children are exposed to narrative structure in children’s storybooks and participate in conversations with literate adults, they begin to internalize the linguistic structure of literate, or written language, helping to prepare them for reading and writing. Studies have shown that decontextualized language is related to literacy acquisition during the early school years. The present study identified a developmental trajectory of narrative production skills during the preschool period. Oral narratives were collected from 54 preschool children (ages 3 years 0 months to 5 years 11 months) from monolingual English speaking families. All narratives were transcribed in CHILDES format, and analyzed for use of literate language features, linguistic structure, and thematic coherence. The broad question of this study was: how do literate language and narrative structure develop in early childhood? Results indicated a shift in narrative capacities during the preschool period. The three-year-old group performed consistently below the older groups, suggesting developmental gains in linguistic and cognitive capacities during this time. By the end of the preschool period, children are able to utilize more complex linguistic structures in their narratives, as well as produce more thematically-oriented stories. The current findings suggest a pattern of preliterate narrative development that may provide a basis for identifying certain language deficiencies linked to later literacy achievement.
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CHAPTER 1
INTRODUCTION

Past research on language development supports the use of oral narrative elicitation to measure linguistic ability and predict future academic success (Craig & Washington, 2000; Curenton, Craig, & Flaningan, 2008; Justice et al., 2006; Teale, Hiebert, & Chittenden, 1987). Within the context of narration, many studies have focused on narrative structure, both syntactical and global, to discern a child’s facility with common components and patterns in literature, or literate language (Berman & Slobin, 1994; Justice et al., 2006; McCabe & Peterson, 1984; McCabe & Rollins, 1994). A number of theories have emphasized the importance of decontextualization, or the ability to represent objects and events out of the present context, in preparing children for an understanding of narrative structure (Guttman & Frederiksen, 1985; Heath, 1982; Sachs, Goldman, & Chaille, 1985). Researchers have observed the emergence of linguistic devices during socio-dramatic play in preschool and noted its role in aiding to decontextualize the pretend situation (Pelligrini, 1985; Wolf & Pusch, 1985). Furthermore, recent studies have explored the use of decontextualized language in preschool narratives and its contribution to the familiarization of literate structure (Curenton & Justice, 2004; Westby, 1991). The present study seeks to investigate preschool narratives in terms of both narrative structure and decontextualized language ability as precursors to literacy acquisition. The goal is to characterize preschool stories with the intent to map preliterate development.

For years, oral and written language skills were considered independently developing functions. However, a growing body of research has found that the two are in fact integrated (Greenhalgh & Strong, 2001; Kaderavek & Sulzby, 2000; McCabe & Rollins, 1994; Sulzby, 1985). As children’s linguistic skills develop in early childhood, they tend to take on many features typical of written text (Kaderavek & Sulzby, 2000; Lundberg, 2006). Children in literate societies often experience written language long before they are introduced to the conventions of reading through storybooks and other instances of textual “listening” (Kaderavek & Sulzby, 2000; Sulzby, 1985). With early exposure to literate language in such
narratives, a child’s own oral language begins to internalize many different aspects of narrative structure (Kaderavek & Sulzby, 2000). For this reason, literacy is not merely a textual ability, but an ability of producing and understanding literate language. In fact, research has shown oral language development to be predictive of early literacy and academic achievement (Curenton & Justice, 2004; Kaderavek & Sulzby, 2000; McCabe & Rollins, 1994; Sulzby, 1985).

Not only do children gain experience with literate language by listening to others, but also through producing narratives of their own. During the preschool period, children become skilled at mentally representing objects (Curenton & Justice, 2004). This enhances play in allowing them to “transform” or imagine objects needed in their current pretend situation. Furthermore, as children gain experience with fictional situations through play, they incorporate verbal strategies to minimize the influence of contextual events (interruptions) during play (Wolf & Pusch, 1985). That is, children’s behavior during play becomes decontextualized as children become increasingly aware that they can invent a context unrelated to their physical surroundings in which to play. As this notion develops, so does the ability to use language in an effort to convey and elaborate decontextualized situations. Sachs et al. (1985) observed an increased elaboration of plot line with the development socio-dramatic play. With age, the notion of “playing pretend” develops, and children’s playtime situations include longer, more complex episodes that are thematically oriented. Heath (1982) describes the connection between decontextualized behavior and language, stating, “[children] know that telling a story can be in many ways related to play; it suspends reality, and frames an old event in a new context; it calls on audience participation to recognize the setting and participants” (p. 73).

Thus, participation in socio-dramatic play enhances a child’s developmental literacy skills. However, children also produce personal and fictional narratives outside of play. Children in literate societies are usually aware of the concept Wolf and Pusch (1985) describe as autonomous text. This concept mirrors the idea of decontextualized language, or text that can stand apart from present, contextual events.

A child’s cognitive ability to mentally represent objects, then, advocates adoption of language to help move the audience away from the present context and follow the story line more closely. Moreover, the use of certain story conventions such as supplying an opening
or beginning of the story, an ending to the story, consistently using past tense, and introducing characters and events indicates that the speaker has a general understanding that stories use a different type of language than everyday discourse (Applebee, 1978). Concisely, use of story conventions implies awareness that stories have special, specific linguistic and structural patterns all of their own.

Several theories have been introduced regarding the assessment of narrative quality. In general, the assessment of linguistic cohesion (microstructure) tends to examine the length, lexical diversity, and complexity of syntax in a narrative (e.g., Berman & Slobin, 1994; Justice et al., 2006; Liles, Duffy, Merritt, & Purcell, 1995). Story coherence and organization (macrostructure) tends to be inspected via the appearance of crucial story-plot elements (setting, problem, resolution) and the sequential (temporal, causal) order in which events are depicted (e.g., Liles et al., 1995; McCabe & Peterson, 1984; McCabe & Rollins, 1994). Overall, the more elaborate, sequential, thematic, and complex a story is, the better its perceived quality (Applebee, 1978; McCabe & Peterson, 1984).

Narrative production is a complex task, tapping a child’s knowledge and integration of many newly acquired linguistic skills. Indeed, many studies have explored children’s storytelling abilities as a measure of linguistic development (e.g., Berman & Slobin, 1994; Curenton & Justice, 2004; Eisenberg et al., 2008; McCabe & Peterson, 1984; McCabe & Rollins, 1994; Reilly, Losh, Bellugi, & Wulfeck, 2004; Reilly, Marchman, & Bates, 1998). As children acquire these skills, their narratives provide many opportunities for assessment of linguistic ability, from the ability to use decontextualized language, follow literate linguistic structure (Curenton & Justice, 2004; Eisenberg et al., 2008; Greenhalgh & Strong, 2001), and create a sequential, cohesive story (Berman & Slobin, 1994; Liles et al., 1995; McCabe & Peterson, 1984; McCabe & Rollins, 1994). Narrative production reflects “not only oral language abilities (e.g., vocabulary, mean length of utterance) but also understanding of episodic structure and story components (e.g., setting, character information, temporal order, causal relationships), which may foster reading comprehension” (Foorman, Anthony, Seals, & Moustaki, 2002, p. 177). In general, children tend to score higher on narrative comprehension than production tasks (Feagans & Short, 1984), suggesting narrative production to be a more demanding task than that of identifying
important and relevant information in a given narrative. For this reason, narrative production tasks are commonly used in measuring language abilities.

**LANGUAGE DEVELOPMENT**

The preschool age has been widely recognized as an important milestone in development. Children experience a shift in cognition during this time, taking part in what Piaget termed symbolic play, which reflects their ability to use mental representation (Pelligrini, 1985). During symbolic play, children may use items available to them or devise imaginary items to represent the objects and tools relevant to their pretend situation. Thinking representationally involves the use of symbols as representing the objects they signify. For example, a picture of a heart as a symbol represents the abstract emotional concept of love. The cognitive development of symbolic representation during the preschool years enables children to mentally represent objects and infer internal states of others (Curenton & Justice, 2004). This development leads to the ability for children to explain the behavior of others by inferring their internal states, known as a Theory of Mind (deVilliers, 2007). Acknowledging the differing internal states of others also relates to the Piagetian notion of dual perspectives. Early cognition is often characterized as egocentric, or focused around the self (Piaget & Inhelder, 1969). With age, however, people are able to simultaneously represent two or more perspectives on the same object or event (Epley, Morewedge, & Keysar, 2004). These authors found egocentric thought to be predominately automatic across all groups, but suggest that what develops with age is the ability to suppress these initial responses and take on others perspectives. This development becomes particularly important in taking on the role as a narrator, recognizing the differing perspectives of the characters within the story, the audience, and the narrator himself (Applebee, 1978; Berman & Slobin, 1994). Thus, just as children become successful at mentally transforming objects into what they represent in social symbolic play, they begin to use language in a more abstract way (Pelligrini, 1985), using words to symbolize characters and objects out of context, creating a more coherent narrative for their audience.

The early childhood years are also a crucial period in language development in that the use of oral language becomes a social skill. Children progress from what Piaget termed egocentric language, or the communication of personal wants and needs, to social language,
as children become proficient in taking turns in conversation and responding to each other’s statements (Foorman et al., 2002; Santiago-Delefosse & Delefosse, 2002). These pragmatic or communication skills influence the child’s interaction with language and provide opportunities for linguistic growth. Linguistic interactions with adults and other literate people familiarize young children with the grammatical structure found in literature, as it is reflected in the speech of a literate society (Foorman et al., 2002). During the preschool years, children are also known to particularly enjoy participating in make-believe play (Sachs et al., 1985). Thus, with the advancement in linguistic ability and interest in pretend situations and creativity, oral narrative production skills emerge and advance during the preschool years (Sachs et al., 1985).

**ORAL NARRATIVES**

Researchers agree that oral narratives are powerful in eliciting productive language samples from children. Across cultures, narratives are used to pass on historical events, relate fond or unfavorable pastimes, and as an outlet for creativity and recreation. As preschoolers grow and gain experience with language, the sophistication of their oral narratives increases (Curenton & Justice, 2004). With the advancement in complexity and structure of language during the preschool years, oral narratives convey abilities on the many facets of language development (Reilly et al., 1998). Compared to informal discourse, narrative production is a complex task that integrates many elements of language, including grammar, vocabulary, and morphology (McCabe & Rollins, 1994; Reilly et al., 2004; Wagner, Nettelbladt, Sahlen, & Nilholm, 2000). Furthermore, narrative skills are a crucial component in academic achievement because sentences must be organized both sequentially and thematically (Peterson & McCabe, 1994). Narrative ability has been shown to be a powerful predictor of school success in learning disabled and language impaired children (Kaderavek & Sulzby, 2000). Oral language ability, paired with the ability to understand episodic structure and story components in children’s narratives, may be linked to later reading comprehension (Foorman et al., 2002). In this way, oral narratives have been linked literacy acquisition and comprehension, both of which are essential to success in an academic environment.
In order to understand language development in a typically developing child, several aspects must be taken into consideration during assessment. Perhaps most importantly, language sampling should elicit peak performances from the children being tested. Children often exhibit simpler and shorter utterances in informal conversation than narration (Wagner et al., 2000), decreasing the validity of conversational accounts in language assessment. Due to the within- and between-subject variability during development (Fenson et al., 1994), the assessment of language skills has remained a perplexing task for researchers. In spite of this seeming limitation, countless studies have evaluated children’s linguistic growth patterns during early childhood (e.g., Curenton & Justice, 2004; Eisenberg et al., 2008; Fenson et al., 1994; Justice et al., 2006; McCabe & Rollins, 1994; Reilly et al., 2004; Ukrainetz et al., 2005). In the past, standardized tests have often been used to evaluate children’s language abilities. However, testing methods such as these may not provide the most accurate accounts of linguistic ability (Greenhalgh & Strong, 2001), as test items tend to be very specific with a narrow range of acceptable responses. Conversely, observational methods, such as narrative elicitation, are more open (permitting a wider range of acceptable answers) and less intrusive (inducing less stress; Teale et al., 1987). Narrative analysis has been suggested as a more sensitive and less biased alternative to standardized language assessments (Justice et al., 2006). Successful language assessments should provide information about each child’s linguistic abilities at multiple levels. Literate language assessment “is essential for identifying children whose language limitations may hinder their academic and communication success” (Greenhalgh & Strong, 2001, p. 115).

Although language development becomes apparent during infancy with communicative cooing and babbling, the vast amount of variability paired with the small (if existent) lexicon hinders language assessment throughout infancy and toddlerhood. However, once children have acquired the basic lexical and grammatical (morphosyntactic) properties of oral language, their language samples can provide a much deeper look into language acquisition. In order to elicit a robust language sample from a young child, many factors must be accounted for. First, children must be given some structure or prompting with which to focus their thoughts. Epstein and Phillips (2009) found problem-based picture sequences elicited longer, more complex stories than single problem-based pictures. Without direction, a child could easily produce an irrelevant or repetitive discourse that does not
accurately represent their true linguistic ability or understanding of narrative structure. Many studies have found oral narrative sampling to be particularly useful in the analysis of language in young children (Curenton et al., 2008; Eisenberg et al., 2008; Greenhalgh & Strong, 2001; Reilly, 1992). The ability to produce an oral narrative requires the use of particular linguistic skills in order to convey meaning out of context. Narrative discourse is a linguistically demanding task that requires knowledge of vocabulary and syntax as well as general story organization (Eisenberg et al., 2008). For example, when constructing a personal narrative, the child must rely on his language to describe all aspects of an event that happened in a context other than the present. In storytelling, the child must be descriptive in terms of characters and objects, as well as able to make inferences about how the characters think and feel.

Decontextualized Language

Using decontextualized language, or the specific linguistic features common in written text that move the information being presented out of the present context, is a critical milestone in language development because it represents an internalization of the linguistic structure of literate (written) language. Oral language is often contextualized, relying on shared environmental information between speaker and listener, including non-verbal communication such as gesture, facial expression, and intonation (Reilly, 1992). Literate language, on the other hand, is characterized by a decontextualization that requires further information to be provided through language to enable comprehension (Greenhalgh & Strong, 2001). The lexical and grammatical organization “of decontextualized language requires use of a more precise vocabulary and formal syntactic marking of the temporal and causal nature of events” (Curenton & Justice, 2004, p. 241). Research has found decontextualized language skills increase with age in the narratives of preschool children (Curenton & Justice, 2004; Eisenberg et al., 2008; Greenhalgh & Strong, 2001). It is during this time that children shift cognitively from an egocentric communication style to a more interactive, expressive style of communication, using language to change contexts for the listener by providing orienting information and using specific linguistic components to enhance and elaborate ideas. The development of decontextualized discourse also allows the
Decontextualized language is characterized by using specific linguistic devices to portray details, make inferences, and provide information that is not otherwise available in the immediate context (Curenton & Justice, 2004). For example, when communicating a past event, fictional story, or abstract concept, one must rely on language to provide detailed descriptions of characters (the little boy in the red hat), emotional or other abstract inferences (she was exhausted), event details (they lazily sat by the pool), and allow for character discourse. Important factors in successful decontextualized discourse include orienting information such as setting and organization, as well as describing causal and temporal relationships (Peterson & McCabe, 1994).

The most identifiable features of decontextualized language are known as literate language features (Curenton & Justice, 2004; Greenhalgh & Strong, 2001; Westby, 1999). These features are characterized as pieces of language or grammar that allow us to relate ideas and organize them in a manner which is comprehensible to the listener. The four indices of literate language are: elaborated noun phrases, adverbs, conjunctions, and mental and linguistic verbs (Curenton & Justice, 2004; Greenhalgh & Strong, 2001). They lend cohesion and detail to the story, which are not otherwise available in the present context.

Literate language features appear more often in oral language as children become increasingly familiar with the characteristics of written language. Sulzby (1985) reported a developmental change from highly contextualized narratives to those using noted features of the written language register (Kaderavek & Sulzby, 2000). This progression emphasizes decontextualized language as a crucial component of literacy acquisition.

The use of literate language features in decontextualized discourse reduces ambiguity and enables one to create a detailed and descriptive story. These features reflect the linguistic structure of written language, implying an understanding of essential storytelling and narrative components. Each of these features increases the explicitness of a story, making it more effective and relatable. Decontextualized language ability can be estimated by the frequency of use of these features (Greenhalgh & Strong, 2001). Research findings support the emergence of decontextualized language during the preschool years. Curenton and Justice (2004) found significant increases in the number of conjunctions and mental and
linguistic verbs between the ages of three and five. The use of other literate language features, such as simple noun phrases and adverbs, also increased, although no significance was found. Complex noun phrases were rare in all age groups. Differences between age groups in the frequency of feature use signifies a developmental change in decontextualized language skills during this time, warranting further investigation.

**Elaborated Noun Phrases**

Elaborated noun phrases (ENPs) help create a more intricate picture in story telling, lending detail and distinguishability to characters and events (Current & Justice, 2004; Greenhalgh & Strong, 2001). An elaborated noun phrase consists of a noun and two or more modifiers. Modifiers may come before the noun (the big bag), or in a separate relative clause (the bag that is big). Eisenberg et al. (2008) describe ENPs as a particularly sensitive indicator of literate language development, increasing in use with age, and able to differentiate between groups for language ability.

Simple ENPs are the most commonly used literate language feature in language samples from children as young as three years of age (Current & Justice, 2004). A simple ENP consists of a noun with two modifiers, whereas a complex ENP includes more than two modifiers, relative phrases, etc. For example, a three-year-old may see a picture of a balloon and say “the red balloon” (simple ENP), whereas a five-year-old may respond “the big red balloon” (complex ENP) when looking at the same picture. ENPs provide further description and reduce ambiguity regarding characters and objects in a story (Eisenberg et al., 2008). That is, ENPs allow the author to distinguish between otherwise similar people, objects and/or events in the story, helping the listener create a more accurate mental model (Greenhalgh & Strong, 2001).

**Adverbial Markers**

Adverbs play a vital role in decontextualized language by lending further descriptiveness to events (Greenhalgh & Strong, 2001), particularly in regards to time and place. For example, in the sentence “The boy quickly ran down the street”, the use of the word quickly adds subtle but important meaning to the event, and provides an opportunity for emotional inference. Adverbs often describe time (slowly), manner (happily), and degree (extremely; Hinkel, 2003; Westby, 1999). Information of this nature is necessary in creating
Conjunctions are another common literate language feature in the language of very young children. They help define causal and temporal relationships by connecting ideas and contributing to the cohesiveness and complexity of discourse. Conjunctions enhance linguistic sophistication in two ways. Coordinating conjunctions join two words, phrases, or clauses of equal importance. Examples of coordinating conjunctions are and, but, or, nor, so, and yet. Subordinating conjunctions introduce a dependent clause. Some examples include because, that, then, since, when, until, and while. The use of coordinate conjunctions is relatively high in preschool narratives, and studies show a significant increase in the use of conjunctions with age (Curenton & Justice, 2004).

Story Verbs
Story verbs are particularly important in decontextualized discourse because they indicate awareness of characters’ mental states and verbal abilities (Greenhalgh & Strong, 2001). Mental verbs are used to relate the character’s thoughts and internal responses (e.g., think, know, forget). Speech verbs refer to various acts of speaking within the story (e.g., say, call, tell). The use of these types of verbs enables the speaker to fully portray characters out of context. Curenton and Justice (2004) also noted a significant increase in the use of mental and linguistic (story) verbs between ages of three and five.

Narrative Language Structure
While recording literate language features in narratives provides a measure of linguistic ability in terms of decontextualized language, it is also important to investigate the complexity, productivity, and the overall cohesion and quality of the story itself. Several studies have identified two independent measures of narrative language structure: microstructure and macrostructure (Justice et al., 2006; Liles et al., 1995). In general, microstructure refers to a local, text-specific organization. On the other hand, macrostructural analysis involves global story structure and organization (Berman & Slobin, 1994; Liles et al., 1995; McCabe & Peterson, 1984).
**MICROSTRUCTURE**

Research has shown narrative microstructure to be associated with later academic success (Justice et al., 2006). Microstructure can be defined as linguistic structure at the lexical and syntactic levels. Other studies have investigated microstructure as the length of utterances in words, number of T-units (one main clause with all dependent clauses; Hunt, 1965), lexical diversity, and the use of cohesive devices (Epstein & Phillips, 2009; Justice et al., 2006; Liles et al., 1995; Paul & Smith, 1993).

Justice et al. (2006) proposed a bidimensionality within microstructure, measuring linguistic structure in terms of productivity and complexity. The authors aimed to determine which of their seven microstructural variables were associated with each dimension. Results supported their proposed bidimensionality. According to factor analysis, the following variables loaded onto one factor they termed *productivity*: total of number of words, number of different words, and length. This dimension therefore represents a general measure of the amount of language produced in a narrative. The variables mean length of T-units in words, mean length of T-units in morphemes, number of complex T-units (two or more connected clauses), and proportion of complex T-units loaded onto a second factor, which the authors termed *complexity*. This factor provides a measure of sophistication in the language sample. The combination of these dimensions provides a thorough estimation of language through vocabulary, syntax, and linguistic cohesion.

**MACROSTRUCTURE**

Whereas microstructure evaluates the level of sophistication of the child’s language in terms of vocabulary and syntax, macrostructural analysis provides information about the level of narrative sophistication in terms of overall story quality and cohesion. Macrostructural analyses have been performed in terms of episode structure (Liles et al., 1995), core story components (Epstein & Phillips, 2009; McCabe & Peterson, 1984; Stein & Glenn, 1979), and cohesive adequacy (Paul & Smith, 1993). The themes addressed by these measures imply a consensus on the importance of narrative quality (that is, how inclusive is the story?) and organization (are the characters and events presented in a logical, sequential fashion?).
**Story Quality**

In order to measure the quality of a story, the fundamental elements of a narrative must be set forth. Researchers agree that successful story structure should include components such as orienting information, internal response, conflict, and resolution (Epstein & Phillips, 2009; McCabe & Peterson, 1984; Stein & Glenn, 1979), known as the story grammar approach. According to this approach a successful narrative should include the following core story components: setting (introductory statements about characters and information providing context), initiating event (external event that motivates main character to act), internal response (goals, intentions, cognitive and emotional responses), internal plan (intended action to achieve goal), attempt (actions to achieve goal), consequence (success or failure of achieving goal), and reaction (thoughts, feelings, or actions in response to events). Theoretically, complete stories should provide information regarding each of these seven components. During preschool, however, language skills are still developing, and some pieces are not always present. Setting information tends to be fairly uncommon in preschool children’s narratives (Eisenberg et al., 2008; Peterson & McCabe, 1994). However, provision of “when” and “where” orienting information increases with age during early childhood (Peterson & McCabe, 1994). Preschool children also omit consequential and reactional information from their narratives (McCabe & Peterson, 1984). In general, although children seem to have an idea of what constitutes a story by the age of three (Applebee, 1978), during a complex task such as narrative production, preschoolers tend to omit certain story components, particularly in opening and closing a story. Research comparing story comprehension and production skills in children found higher scores on comprehension than production measures, even though the story they were asked to produce was a "retell" of the one they had just heard during the comprehension task (Feagans & Short, 1984). These findings support the notion that producing a narrative is a complex task that imposes high cognitive and linguistic demands on the speaker beyond the complexity of the story itself.

**Story Coherence**

Story coherence refers to the relatedness and organization of the events presented in a story. A study by McCabe and Rollins (1994) found qualitative differences in the types of
narratives produced in each age group. Typical narratives from children age three years, six months related only up to two events in their narratives. By age four, children’s narratives involved more than two events, although typically presented in a non-sequential or illogical order. Five year olds typically produced a more sequential type. In this story type, children presented more than two events sequentially, but seemed to dwell on the climactic event and not offer a resolution. Similarly, in a study Kaderavek and Sulzby (2000), typically developing children between the ages of two and four years failed to produce endings in their stories. At the age of six and beyond, McCabe and Rollins (1994) noted children’s narratives to be well formed, included orienting information, built to climax, and offered a resolution to end the story. This trajectory of increased story organization and cohesiveness implies a developmental progression of narrative organization, especially throughout the preschool years.

These changes in linguistic ability result in a period of particular interest in the study of language development. Both the use of literate language and narrative structure during this time have been linked to later literacy skills and academic success. Furthermore, oral narrative production is a complex task that inflicts high demands on cognitive, linguistic, and social skills. Therefore, the language samples provided from oral narrative production tasks provide a rich linguistic sample in which the child must employ his knowledge of literate language in order to successfully produce a story. However, little information on the developmental trends in language acquisition for both decontextualized language and narrative structure is available for this age group.

**THE CURRENT STUDY**

Successful narrative production incorporates many sophisticated linguistic skills that allow the speaker to convey information in a decontextualized format. These skills represent an internalization of the structure of written language. Studies have shown that decontextualized language skills and narrative structural abilities develop during childhood. However, relatively few studies have examined these qualities in preschool children.

**Purpose of the Study**

The purpose of this study is to explore the oral narratives of young children in order to map the developmental trajectory of literate language during early childhood. The broad
question to be addressed in the present thesis is: at what rates do decontextualized language and narrative structure develop in early childhood? In order to evaluate typical early language development, we are addressing these questions:

1. Does the use of literate language features increase with age? Which features show the greatest amount of change?
2. Do preschool narratives show differences in linguistic structure with ages?
3. What are the differences between age groups in relation to story quality and cohesion?

**Hypotheses**

As previously discussed, the use of decontextualized language has been linked to literacy and academic success (Dickinson & McCabe, 1991; Feagans & Short, 1984; Gillam & Johnston, 1992; McCabe & Rollins, 1994). As children acquire literate language, they begin to rely on their words to reduce ambiguity in their narratives (Currenton & Justice, 2004; Eisenberg et al., 2008; Greenhalgh & Strong, 2001; Pelligrini, 1985). Elaborated noun phrases are a highly common literate language feature, indicating that they are essential to the production of a story by differentiating between characters and relevant objects (Currenton & Justice, 2004; Eisenberg et al., 2008). Conjunctions are also prevalent in literate language (Currenton & Justice, 2004), relating temporal and causal relationships to increase linguistic cohesion and syntactic complexity. Adverbial markers, while rare in early narratives, facilitate the elaboration of events in a story. The use of story verbs is less common in early narratives, but has been shown to increase significantly with age (Currenton & Justice, 2004). These verbs enhance the decontextualization of a narrative by detaching the speaker from the characters in the story. Since decontextualized language analyses have shown developmental increases in the use of literate language features with time, and are considered good predictors of later literacy and academic success, it is of interest to explore frequency of usage.

*Hypothesis One:* It is hypothesized that the use of literate language features will increase with age (as shown by a composite score); conjunctions and story verbs will show the greatest increase between ages.

Previous studies on narrative discourse have shown a developmental increase in response length in terms of the total number of words, number of different words (Justice et al., 2006) and sentences (Reilly et al., 2004) used, implying lexical growth. Developmental
increases have also been observed in the total number and proportion of complex propositions (Berman & Slobin, 1994; Justice et al., 2006; Kaderavek & Sulzby, 2000; Reilly et al., 2004) suggesting an increase in syntactic ability with age. Applebee (1978) defines narrative complexity as the number of elements that must be coordinated within a story. As more words and sentences are used in narration, the greater the demand on an individual’s skill with linguistic cohesion.

*Hypothesis Two:* It is hypothesized that a main effect of age will be noted in narrative complexity, in that the older children’s narratives will include a greater proportion of complex propositions, as well as more types of complex sentences.

Studies have found a developmental increase in the number of important story components included in oral narratives. With age, children’s stories tend to include a greater number of events, which become increasingly well ordered and thematically relevant (Applebee, 1978; McCabe & Rollins, 1994). Five-year-old narratives have been reported to be more sequential and thematically coherent than those of three-year-olds (Berman & Slobin, 1994), implying an overall improvement in story cohesion with age.

*Hypothesis Three:* It is hypothesized that significant advancements in story structure and type appear between ages in years, in that 3-year-old children will produce irrelevant narratives; 4-year-olds will produce sequential narratives; 5-year olds will produce sequential and thematic narratives. Number of story components will increase with age, although none of the groups will reliably produce resolutions in their narratives.
CHAPTER 2

METHODOLOGY

This chapter discusses the methods of the current study, including participant recruitment, and the procedural steps involved in gathering, coding, and scoring the data.

PARTICIPANTS

Participants included fifty-four monolingual English speaking children recruited throughout San Diego, ranging in age from 3 years; 0 months to 5 years; 11 months. Recruitment involved first receiving school approval followed by parental consent for a child to participate in the study. As a result, the current sample includes children from varying backgrounds, especially in regards to school socio-economic status. The three- and four-year-old children were recruited mainly from an on-campus preschool and daycare facility at San Diego State University. Few five-year-old children were enrolled in preschool. Therefore, most five-year-olds were recruited from one of two kindergarten classrooms in public elementary schools. Variation in scores by school is further addressed in the discussion of study limitations. In order to facilitate tracking of potential developmental trends, the total number of children was divided into three groups by year, including 18 children in each of the groups. Children from bilingual and multilingual families were not included in the study, along with children known to have speech or learning deficits.

PROCEDURE

Each of the children participated in three tasks: biosketch, sentence repetition, and narrative production. The biosketch consisted of an informal conversation between child and researcher, intended to warm the child up to talking with the researcher, and make them comfortable with the unfamiliar setting of the experiment, wearing a microphone, etc. These conversations were not transcribed or included in our study. Participants then completed a sentence repetition task, consisting of 24 sentences, ranging in complexity from a two-word \((subject + verb)\) sentence, to increasingly complex and compound sentences \((Bill \ would \ like \ to)\)
Data from this task was scored as a measure of linguistic ability. Finally, original stories were elicited from each child in a narrative production task.

During the narrative production task, children were presented with three sets of four pictures (see Appendix A for Picture Sequences). Each set of pictures represented a specific picture story recently created for a larger project, thus unfamiliar to the subjects. Picture stories were presented one at a time and in random order to reduce the possibility of practice and order effects. Children were then instructed, “these four pictures go together to make a story. Look carefully at the pictures and tell me the story that the pictures make.”

Allowable prompts from the experimenter were restricted to non-inferential responses such as “tell me about this picture” and “anything else?” Children who struggled with initiating a narrative were prompted with “How does your story start?” By restricting the allowable prompts from the experimenter we attempted to avoid unintentional provision of information regarding story content or structure.

**TRANSCRIPTION AND CODING**

Children’s responses were recorded onto audiocassette tapes and later transcribed by the experimenter and trained research assistants in the Developmental Laboratory for Language and Cognition at San Diego State University. Children’s utterances were transcribed verbatim, as well as any pertinent responses from the experimenter that were not prescribed prompts. Narratives were transcribed in an adapted Child Language Data Exchange System (CHILDES) format. Transcribed narratives will be analyzed for decontextualized language ability as well as linguistic and narrative structure.

**MEASURES**

Once transcribed, each child’s stories were then scored on measures in each of the narrative language domains. The coding criteria for decontextualized language followed Greenhalgh and Strong’s (2001) coding scheme, which includes: elaborated noun phrases, conjunctions, adverbs, and story verbs. Narrative language structure was coded at the microstructural (linguistic) and macrostructural (organization) levels. The coding criteria for linguistic structure was adapted from the Reilly et al. (1998, 2004) coding scheme, which includes: overall story length and syntactic complexity. Coding criteria for story quality was adapted from the coding scheme devised by Paul, Hernandez, Taylor, and Johnson (1996),
which will measure both story quality (story grammar approach), and story coherence (narrative style).

**Measures of Decontextualized Language**

The number and type of literate language features used will be recorded to establish a measure of decontextualized language ability. See Appendix B, Table B1 for the Literate Language Feature coding schema with examples. Types of literate language features are as follows:

1. **Elaborated Noun Phrases**: Elaborated noun phrases increase descriptiveness in narratives. A noun phrase was counted as one ENP when two or more modifiers preceded the noun (*the bright yellow hat*) or the noun was followed by a qualifier, such as a prepositional phrase (*the bright yellow hat in the window*), or relative clause (*the girl who has a yellow hat*). Determiners were included as modifiers (a, an, the).

2. **Conjunctions**: Conjunctions connect pieces of narrative structure, contributing to linguistic and narrative cohesion. Coordinating conjunctions link ideas to each other, while subordinating conjunctions define hierarchical relationships within syntax. Coordinate and subordinate conjunctions were tallied and added to produce a literate conjunction score. Examples of qualifying conjunctions include: *when, because, so, then, since, so, if, and, as.*

3. **Adverbial Markers**: Adverbial markers facilitate the elaboration of events in a story. Adverbial markers included adverbs and prepositional phrases serving adverbial function. Thus, adverbials that conveyed attitude, time, and manner were be tallied and added.

4. **Story Verbs**: These verbs are used to convey the cognitive and linguistic properties of story characters. Mental verbs relay cognition (*thought, know, decided, wished*); whereas speech verbs enable character discourse (*the boy said, “Hey! That’s mine!”*; or the dog *barked and barked*). Examples of story verbs include: *thought, wished, scolded, said, told, know, barked, yell, promised, call, asked, forgot, decided.* Total number of story verbs was tallied.

**Measures of Linguistic Structure**

Linguistic structure will be measured in terms of both productivity and complexity. Total number of words per narrative will be tallied using the FREQ program of the CHAT coding system. Total number of propositions will be tallied; a proposition consists of a verb and its arguments. Semantically, a proposition relates a single event. For example, the utterance, *“He wants his basket back but the horsey’s taking it,”* counts as two propositions, connected by the word *but.* In contrast, *“Once upon a time there was a little kid holding a*
“balloon.” counts as one proposition. The total number of propositions will also be used as a denominator to measure proportion of complex syntax, which will be addressed below.

A complex sentence is comprised of two or more propositions falling within a sentence intonation contour. Types of syntax were as follows: coordinate clauses, adverbial (subordinating) clauses, verb complements, relative clauses, and passives. See Appendix C, Table C1 for examples of complex syntax types. The total number of complex sentences was tallied for each narrative. This number was then divided by total number of propositions to produce a proportion of complex syntax. Additionally, the variety of complex syntax types will be scored to measure syntactic diversity.

**Measures of Narrative Structure**

Narratives will also be scored on narrative structure. The present study measured narrative structure in two ways: story elements and thematic cohesion. The story elements measure refers to the amount of pertinent, structural information included in the narrative. Thematic coherence refers to the inter-sentential relevance of information to an overall plot or story line.

Each narrative was scored for the presence of six story elements, including: setting, initiating event, problem/action, reaction, consequence, and internal response, for a total score between zero and six. The beginning of a story is often marked by information relevant to the setting and initiating event components. This portion of overall plot includes information given regarding the main character or describing the social/physical context of the story (“a little bunny had a basket and she went to a farm”). An initiating event is an action or event that causes the character to act or set a goal (“and she grabbed all the carrots”). Together, these components introduce the listener to the story characters and context, as well as provide a basis on which to connect future events. The middle of a story generally includes the majority of the actions that take place. This section is characterized by the problem/action element. This element refers to a conflict or action that requires further action to achieve a resolution (“the horse was taking the basket and runned away”). Actions and events occurring in response to the attempt will be considered an ending. The two elements that comprise an ending are reaction and consequence. The element of reaction involves the character's response to the events. This includes thoughts, emotions, or actions
taken that are a result of the previous events in a story ("the little bunny runned after the horse so she could eat the rest of her carrots"). A consequence refers to the result of the reaction, whether success or failure ("and then they catched up with her and they ate carrots together"). Lastly, an internal response includes a character's goals, intentions, and cognitive and emotional responses to any event or combination of events in the story ("and ate carrots together to be friends"). The presence of each story element in a narrative was tallied. In addition to the number and types of story elements produced, the use of the strong story elements, or SSEs, (initiating event, problem/action, and reaction) was also recorded.

The second measure of macrostructure was that of thematic coherence. This measure scored the maturity of the narrative in terms of quality and thematic-organization. Once narratives were coded for story elements, they were categorized into one of four stages, or "narrative types". Narratives in which the child was labeling and/or describing objects and lacked a central theme was coded as a labeling story and given a score of one. Similarly, descriptive stories involved labeling or describing objects and events, and may or may not have been focused around a central theme. Descriptive stories received a score of two. Related-events stories contained two or more events around a central theme, receiving a score of three. Motivated-events stories presented two or more related events, one of which provided motivation for another event to take place. Narratives in the motivated-events story stage received four points. In sum, story quality was assessed in terms of story elements; these components will be applied to the measures of plot components and story cohesion (i.e., narrative type). Example stories for each narrative type are listed in Appendix D, Table D1.
CHAPTER 3

RESULTS AND DISCUSSION

The present study investigated the narrative language domains of decontextualization, local-linguistic structure, and global-narrative structure. Each of these domains have been linked to literacy development and academic success. The current study aimed to examine whether these structures undergo significant gains during the preschool period, in hopes of identifying the developmental trajectory of pre-literate language skills. Once the data was transcribed and coded, they were subjected to statistical evaluations in each of these areas. Presentation and discussion of statistical findings are as follows.

RESULTS

Preschool narrative production ability was analyzed in three domains: decontextualized language (literate language features), microstructure (linguistic measures), and macrostructure (narrative quality and cohesion). For reliability, a second coder scored a random sample of narratives; agreement exceeded 85% for measures in all domains. Preliminary repeated-measures analyses of variance revealed no significant differences on measures between stories. Therefore, mean values were calculated for each measure by child and entered into multiple analyses of variance (MANOVA). Significance of all comparisons was assessed using Tukey's Honestly Significant Difference (HSD) method.

Decontextualized Language

To investigate decontextualized language ability, a multiple analysis of variance was run on frequency of use of all literate language feature types: elaborated noun phrases (simple, complex), conjunctions (coordinate, subordinate), adverbial markers (adverbs, prepositional phrases), and story verbs (mental verbs, speech verbs). When all literate language features were entered together, Wilks’ Lambda multivariate tests showed no effect of age on the dependent variables, $F(2,53)=1.302, p=.214, \eta^2=.191)$. However, it is of note that tests of Between-Subjects effects found a significant effect of age on complex-elaborated
noun phrases (CENP), $F(2,53)=4.969, \ p=.011, \ \eta^2=.183$, but not for simple elaborated noun phrases (ENP), $F(2,53)=1.384, \ p=.260, \ \eta^2=.051$. No other literate language feature revealed a significant effect of age. Post-hoc comparisons showed the five-year-old group used significantly more complex ENPs than the both the four-year-old ($p=.017$) and three-year-old ($p=.032$) groups (see Figure 1).

![Figure 1](image)

Figure 1. Group means for complex elaborated noun phrases. Results revealed a main effect of age in that the five-year-old group produced significantly more complex elaborated noun phrases than the three- and four-year-old groups.

Altogether, the children used an average of seven literate language features per story. Literate language feature use increased, although not significantly, between age groups. Descriptive analyses were run on all literate language features to determine frequency of use. Of the four language feature types (Elaborated Noun Phrases, Conjunctions, Adverbial Markers, Story Verbs), conjunctions were by far the most commonly used feature ($M=3.32$, $SD=1.81$); followed by adverbial markers ($M=2.67$, $SD=1.81$). Elaborated noun phrases and story verbs were relatively uncommon, averaging 0.52 ($SD=.72$) and 0.56 ($SD=.82$) per story, respectively. Frequencies of literate language feature use are shown in Figure 2. Paired-sample t-tests revealed the use of conjunctions to be significantly greater than all other features ($p<.009$); elaborated noun phrases and story verbs were used significantly less than the other features ($p<.001$). See Table 1 for means and standard deviations for all literate language features.
Figure 2. Mean frequencies for literate language features by year. Results showed no effect of age on the use of literate language features during the preschool period.

Table 1. Group Means and Standard Deviations for Literate Language Features

<table>
<thead>
<tr>
<th></th>
<th>3-year-olds</th>
<th>Mean(SD) 4-year-olds</th>
<th>5-year-olds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaborated Noun Phrases:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td>0.20(0.33)</td>
<td>0.44(0.54)</td>
<td>0.30(0.43)</td>
</tr>
<tr>
<td>CENP</td>
<td>0.09(0.25)</td>
<td>0.06(0.13)</td>
<td>0.48(0.73)</td>
</tr>
<tr>
<td>Conjunctions: CC</td>
<td>2.59(1.70)</td>
<td>2.63(1.34)</td>
<td>2.91(2.05)</td>
</tr>
<tr>
<td>SC</td>
<td>0.52(0.60)</td>
<td>0.63(0.82)</td>
<td>0.69(0.63)</td>
</tr>
<tr>
<td>Adverbial Markers: ADV</td>
<td>1.67(2.42)</td>
<td>1.37(0.86)</td>
<td>1.61(1.24)</td>
</tr>
<tr>
<td>PPhr</td>
<td>1.24(1.24)</td>
<td>1.02(0.62)</td>
<td>1.11(0.80)</td>
</tr>
<tr>
<td>Story Verbs: MV</td>
<td>0.28(0.31)</td>
<td>0.54(0.53)</td>
<td>0.43(0.51)</td>
</tr>
<tr>
<td>SV</td>
<td>0.06(0.13)</td>
<td>0.07(0.18)</td>
<td>0.30(0.94)</td>
</tr>
</tbody>
</table>

Glossary of terms: Elaborated Noun Phrases (ENP), Complex Elaborated Noun Phrases (CENP), Coordinate Conjunctions (CC), Subordinate Conjunctions (SC), Adverbs (ADV), Prepositional Phrases (PPhr), Mental Verbs (MV), Speech Verbs (SV).

Microstructure

A multiple analysis of variance was then run on linguistic structure. The dependent variables included three linguistic measures: length, proportion of complex syntax and syntactic diversity. Means and standard deviations for measures of microstructure are reported in Table 2.
When analyzed together, the Wilks’ Lambda multivariate test of group differences showed a significant effect of age on microstructure, \( F(2,53)=2.256, p=.044, \eta^2=.121 \). Age accounted for 12% of the total variance in microstructure scores. Tests of between-subjects effects found age to have no significant effect on length. However, a main effect of age was found on proportion of complex syntax, \( F(2,53)=3.267, p=.046, \eta^2=.114 \). Age accounted for 11% of the variance in proportion of complex syntax scores. Tukey tests revealed the five-year-old group used a significantly larger proportion of complex syntax in their stories than the three-year-old group. The four-year-old group did not differ significantly from either of the other groups (see Figure 3).

![Figure 3. Average proportion of complex syntax by year. The older groups produced nearly twice as many complex sentences in their stories than the three-year-old group.](image)

For syntactic diversity, a main effect of age was also noted, \( F(2,53)=6.321, p=.004, \eta^2=.199 \). Twenty percent of the variance in syntactic diversity scores was accounted for by age. Tukey tests found significant differences between the three-year-old group and both older groups for syntactic diversity (see Figure 4).
A multivariate analysis of variance was then run on each of the five types of complex syntax: coordinate clauses, adverbial (subordinating) clauses, verb complements, relative clauses, and got passives. With all types entered together, the Wilks’ Lambda multivariate test of group differences showed a significant effect of age on type of syntax used $F(2,51)=1.910, p=.05, \eta^2=.169$. Age accounted for nearly 17% of the variance in type of syntax employed. Tests of between-subjects effects found a significant main effect of age on the use of adverbial clauses $F(2,51)=4.725, p=.013, \eta^2=.156$. Tukey tests revealed a significant difference between the youngest and oldest groups in that the five-year-olds used significantly more adverbial clauses in their narratives than the three-year-olds.

Overall, the children's stories became more complex with age. Group means revealed the youngest group scored at about 50% of the older groups for both proportion of complex syntax and syntactic diversity measures. Full passives were not used by children of any age, suggesting this particular type of syntax to be later acquired, and thus was removed from the scoring schema. All types of complex syntax increased with age, excluding got passives, which were found only in a few four-year-old stories, and coordinate clauses, which increased slightly between three and four, but declined again at age five. Coordinate clauses were common in all preschoolers’ stories; approximately one-fourth of all stories across the
age groups included at least one instance of a coordinate clause. Adverbial clauses showed
the greatest increase with age, increasing from 9% use in the three-year-old
group to 37% use in the five-year-old group. Verb complements also increased with age
from 18.5% of three-year-olds’ stories to 31.5% of five-year-olds’ stories. Figure 5 shows
the percent of stories including each of the different types of complex syntax. See
Appendix E, Table E1 for percentages of stories by type of complex syntax.

![Figure 5. Percent of stories exhibiting each of the complex syntax types by year.](image)

To investigate language repetition and its relatedness to production scores, each of the
microstructure scores were entered into a Pearson correlation matrix with scores from the
sentence repetition task (number correct, number incorrect, total responses). Results showed
no significant correlations between measures. However, one-way ANOVAs were conducted
on each of the sentence repetition measures by age. Between-subjects effects found a
significant effect of age on the number of correct responses given in the sentence repetition
task (mean of 3-year-olds=12.12, mean of 5-year-olds=16.29). However, age did not affect
the number of total responses, as most children in all groups completed or almost completed
the task. Age also did not affect the number of incorrect responses given in the task. This
may be due to the fact that proportionally, the younger kids who failed to respond to these
complex sentences did not receive a score of "incorrect" rather, "omitted". Furthermore, the
number of incorrect responses did indeed decrease with age (mean of 3-year-olds=10.06,
mean of 5-year-olds=7.18), large amounts of variation and unequal sample size may have
deterred significance. Thus, results demonstrate that with age, more children are able to successfully repeat more (in number and complexity) syntactic types. Tukey HSD tests found the five-year-old group as scoring significantly above the three-year-old group, $p=.019$. Overall, findings demonstrate that children gain a greater command of complex syntax during the preschool years, as evidenced by performance rates on the sentence repetition task.

**Macrostructure**

A multiple analysis of variance was also run to analyze overall story quality through narrative macrostructure. The domain of macrostructure included two narrative measures: total number of story elements (setting, initiating event, problem/action, reaction, consequence, internal response) and narrative type (labeling, descriptive, related-events, motivated-events). Table 3 shows group means and standard deviations for measures of macrostructure. The Wilks’ Lambda univariate test of group differences showed a significant effect of age on story structure $F(2,51)=5.124, p=.001, \eta^2=.170$. Age accounted for 17% of the variance in the number of story elements included in a narrative. Tests of between-subjects effects showed a significant effect of age on total number of story elements, $F(2,53)=5.842, p=.005, \eta^2=.189$. Tukey tests found the three year-olds' scores significantly lower in terms of story elements and narrative type than the older groups (see Figure 6).

<table>
<thead>
<tr>
<th></th>
<th>SSEtotal</th>
<th>NarrType</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-year-olds</td>
<td>2.44(1.13)</td>
<td>2.31(0.77)</td>
</tr>
<tr>
<td>4-year-olds</td>
<td>3.70(1.04)</td>
<td>2.89(0.43)</td>
</tr>
<tr>
<td>5-year-olds</td>
<td>3.52(1.09)</td>
<td>3.07(0.45)</td>
</tr>
</tbody>
</table>

Multivariate analyses were then run on all story elements by age. With all elements entered together, the Wilks’ Lambda univariate test of group differences showed a significant effect of age on the use of story elements $F(2,51)=3.259, p<.001, \eta^2=.130$. Age accounted for 13% of the variance in the inclusion of story elements in preschool narratives. Tests of between-subjects effects revealed a significant effect of age on initiating event ($F(2,51)=8.693, p<.001, \eta^2=.099$), problem/action ($F(2,51)=12.328, p<.001, \eta^2=.134$), and
Analyses indicated a main effect of age, in that the older groups included more elements in their stories than the youngest group.

As our strong story elements, these particular pieces of structure were sensitive to age. Tukey tests revealed the three-year-old group included significantly fewer instances of initiating events and problem/actions in their stories than both the four- and five-year-old groups. The three-year-olds also included significantly fewer reactions than the five-year-olds, but the four-year-old group showed no significant difference from either of the other groups.

To further analyze our measures of macrostructure, frequency statistics were run for each age group on the use of the three strong story elements, or SSEs (initiating event, problem/goal, and reaction). Frequency percentages of SSE usage are reported in Appendix E, Table E2. The three-year-olds’ stories scored below the older groups for all SSEs. Initiating events and problem/action elements increased in frequency between ages three and four, but decreased slightly between four and five. The reaction element, however, showed a slower increase that increased steadily across ages (see Figure 7).

To measure story quality in macrostructure, stories were also scored categorically in terms of narrative type. To identify differences in this categorical variable, frequency of occurrence was investigated by type and age (see Table 4). The three-year-old group produced narratives in all narrative type categories (labeling, descriptive, related-events, motivated-events). However, only one four-year-old story was categorized as labeling; none of the five-year-old stories were classified as labeling or descriptive. Of 162 total stories collected, 97 fell in the related-events category. This was the most common narrative type.
Figure 7. Percent of stories including each of the strong story elements (SSEs).

Table 4. Frequency Count of Stories in Each Narrative Type Category by Age

<table>
<thead>
<tr>
<th>Narrative Type</th>
<th>3-yr-olds</th>
<th>4-yr-olds</th>
<th>5-yr-olds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrelevant</td>
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<td>0</td>
<td>0</td>
<td>3</td>
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<tr>
<td>Labeling</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>10</td>
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<tr>
<td>Descriptive</td>
<td>15</td>
<td>9</td>
<td>7</td>
<td>31</td>
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<tr>
<td>Related-Events</td>
<td>22</td>
<td>39</td>
<td>36</td>
<td>97</td>
</tr>
<tr>
<td>Motivated-Events</td>
<td>5</td>
<td>5</td>
<td>11</td>
<td>21</td>
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</tbody>
</table>

across age groups. However, more stories used related-events in the older groups than the youngest group.

To examine differences between group means for story quality, t-tests were conducted on average narrative type score by age group. Alpha was protected using the traditional Bonferroni adjustment. Results indicate that on average, the three-year-old groups’ stories scored significantly below the four- and five-year-old groups. Mean scores by group for narrative type are shown in Figure 8.

Percentages were run on all stories for story quality. Percents of stories by narrative type are reported in Appendix E, Table E3. The relating events type was the most common for all ages, ranging from 40.7 to 66.7% of stories. The three-year-olds were the only group to produce irrelevant (themeless) stories. Frequency for both the labeling and descriptive types decreased with age. Relating events increased between ages three and four (40.7 to 72.2%), decreasing slightly between four and five (66.7%). The motivating events type
Figure 8. Average narrative type by group. The youngest group produced mostly descriptive stories, whereas the older groups told relative stories.

accounted for 9.3% of stories in both the three- and four-year-old groups, roughly doubling in frequency between four and five (20.4%). Figure 9 shows percent of stories for each narrative type by age group.

Figure 9. Percent of stories in each narrative type by age.

Pearson Correlations

Each of the five narrative language measures (Microstructure: TNP, PropCSyn, SynDiv; Macrostructure: SSETotal, NarrType), along with a composite literate language score (LLFtotal), were entered into a Pearson correlation matrix to analyze similarities in developmental progression for each domain (Table 5). With all scores pooled, five of the six variables showed moderate to strong correlations, ranging from $r=.414$ to $r=.841$. 
Table 5. Correlations Between Main Measures

<table>
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<tr>
<th></th>
<th>LLFtotal</th>
<th>TNP</th>
<th>PropCSyn</th>
<th>SynDiv</th>
<th>SSEtotal</th>
<th>NarrType</th>
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<tr>
<td>TNP</td>
<td>0.841*</td>
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<td>PropCSyn</td>
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<tr>
<td>SynDiv</td>
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<td>0.604*</td>
<td>0.830*</td>
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<tr>
<td>SSEtotal</td>
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<td>0.419*</td>
<td>0.245</td>
<td>0.414*</td>
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<tr>
<td>NarrType</td>
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<td>0.634*</td>
<td>0.497*</td>
<td>0.588*</td>
<td>0.625*</td>
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</tr>
</tbody>
</table>

*Correlation significant at the .01 level (2-tailed)

Decontextualized language correlated moderately to strongly with all measures of microstructure: TNP ($r=.841, p<.001$), PropCSyn ($r=.461, p<.001$), and SynDiv ($r=.514, p<.001$). Literate language features showed weaker correlations with measures of macrostructure: SSEtotal ($r=.254, p=.06$), and NarrType ($r=.411, p=.002$). Measures of microstructure did not strongly correlate with SSEtotal, but did show moderate correlation with NarrType ($r=.497-.634, p<.001$).

**DISCUSSION**

Narrative production is a complex task requiring many cognitive, social, and linguistic skills. Eliciting narratives provides a rich sample of linguistic ability, and is particularly useful in measuring language during the preschool period. Past research has been conducted using language samples to measure literate language (Curenton & Justice, 2004; Greenhalgh & Strong, 2001; Pelligrini, 1985; Westby, 1991), local-linguistic structure (Berman & Slobin, 1994; Bloom & Lahey, 1978; Justice et al., 2006; Liles et al., 1995; Reilly, 1992; Reilly et al., 1998, 2004), and global narrative structure (Applebee, 1978; Berman & Slobin, 1994; Liles et al., 1995; McCabe & Rollins, 1994); these studies have linked such linguistic skills in preschoolers to later literacy success during the school years. No study has examined all three of these structural domains within one sample. The interrelatedness of these structural domains has yet to be explored. As each of these domains examines a specific facet of narrative language, the present study aimed to identify developmental differences in the narrative production skills of preliterate children, and the possible relations among these components. In the years between initial language acquisition and literate instruction, children are expected to exhibit great gains in literate language, linguistic complexity, and narrative quality. Our results revealed an increase in narrative
language abilities during preschool. As a group, the three-year-olds consistently scored below the four and five-year-old groups, suggesting an upward trend in capacity for narrative production. For literate language, frequency of feature use showed little increase with age overall, but revealed developmental gains particularly in measures of elaboration. Measures of microstructure revealed older children produced longer, more complex sentences in their stories. Measures of macrostructure found older groups produced stories of better quality, in that they included more elements in their stories, which were also more cohesive than the young children's stories. Overall, the older groups scored above the youngest group on most measures, suggesting an upward shift in narrative production ability.

We now turn to our original hypotheses:

**Hypothesis One:** It is hypothesized that the use of literate language features will increase with age (as shown by a composite score); conjunctions and story verbs will show the greatest increase between ages.

Results failed to support this hypothesis, as age had no effect on literate language feature use overall. When examining group frequency means, the greatest amount of increase in frequency for all features was seen in elaborated noun phrases and conjunctions (mean increase of .482). Only about half of the five-year-olds used more elaborated noun phrases and conjunctions in their stories than the three-year-olds. However, this increase was much more substantial in terms of elaborated noun phrases than conjunctions, as this number nearly tripled the frequency of use between three and five. As previously mentioned, the use of elaborated noun phrases was rare and did not show statistically significant changes overall. However, upon inspection of group means within this feature category (elaborated and complex-elaborated noun phrases), a significant increase in complex-elaborated noun phrases was observed between the two younger groups (three and four) and the oldest group, suggesting this particular feature type is recruited more frequently toward the end of the preschool period.

Overall, literate language features were evident in all preschoolers’ narratives, revealing a capacity for decontextualized language in early childhood. These results demonstrate that preschoolers of all ages use literate language features in narration. However, not all features were used with equal frequency. A pattern of literate language feature frequency persisted across all ages, in that conjunctions and adverbs were widely used, while elaborated noun phrases and story verbs were not.
For literate language, age did not have a significant effect on literate language feature production. This result was similar to previous research that has found literate language feature usage to differentiate learning impaired children from their typically developing peers, but no effect of age (Greenhalgh & Strong, 2001). Another study found significant age differences for literate language feature use in preschool children from low-income families (Currenton & Justice, 2004). These findings suggest that the acquisition of literate language is particularly sensitive to learning deficits and other environmental factors. While several studies have failed to identify group differences in age, the use of literate language features seems to be a useful tool in measuring language ability for language impaired populations who struggle with language acquisition on many levels, as well as those who come from lower-SES school environments and may not have as much exposure or instruction in narrative language. To reconcile these differences, data from children of a variety of backgrounds could be analyzed to reveal patterns of feature use for each of these variable groups. Patterns of consistency when looking at usage rates across age typical groups could support the use of these frequency levels as a normalized level of literate language: a child who exceeds these levels may have a propensity for decontextualized language, whereas a child who fails to meet these criteria may be showing signs of narrative language deficiency. One explanation for the seeming lack of literate language development in the current study could be that the context in which the stimuli were presented did not impose a need for excessive elaboration, as the child and experimenter were viewing the picture sequences together. Another explanation could be that the brevity and simplicity of these picture sequences produces somewhat of a ceiling effect in the amount of connectivity and elaboration the children produced. To test this, narratives from longer, more complex picture sequences should be elicited and measured for the proportion of literate language feature production.

Age did, however, show an effect on the use of complex elaborated noun phrases, in that the five-year-old group used significantly more than the three- and four-year-old groups. Eisenberg et al. (2008) reported the use of simple versus complex noun phrases to differentiate between age groups in school-age children. The use of this particular feature requires more elaboration that would be necessary in contextualized language such as informal conversation (Westby, 1991). For example, when describing the Rabbit Story
sequence (see Appendix E, Table E1 for full picture sequences), many of the three-year-olds refer to “the carrots” or “the basket”. By age five, however, noun phrases contained more elaborative information, such as “the rest of her carrots” and “the rabbit’s food” providing the listener with more information with which to build the storyline. This elaborative increase supports previous research that found noun elaboration showed the greatest effect of age above all other aspects of language during decontextualized play (Pelligrini, 1985). Using more nominal elaboration in storytelling may imply that the narrator has assumed what has been termed a spectator-role (Applebee, 1978). By increasing elaboration in a story, the narrator presumably understands that the audience lacks certain information that is necessary to fully grasp the story and its context.

**Hypothesis Two:** It was hypothesized that a main effect of age will be noted in linguistic production and complexity, in that the older children’s narratives will include a greater number of propositions, as well as greater proportions of complex syntax and syntactic diversity.

Results supported hypothesis two for complexity, although no significant differences were found in terms of length. Age had a significant effect on complexity, as the five-year-olds used a significantly greater proportion of complex syntax than the three-year-olds; both four- and five-year-old groups employed a greater variety of complex syntax in their stories than the three-year olds. These findings suggest an increase in linguistic capacity during preschool. Older preschoolers are able to convey more complex, hierarchical relationships in their stories via complex syntax, whereas the younger children seem to connect ideas linearly, if at all.

In terms of microstructure, both the proportion of complex syntax and syntactic diversity increase with age. This is in line with findings from numerous studies on narrative language (e.g., Berman & Slobin, 1994; Justice et al., 2006; Liles et al., 1995; Reilly, 1992; Reilly et al., 1998, 2004). Sentence repetition scores support an increase in linguistic capacity with age during the preschool period. For proportion of complex syntax, group means increased with age, with the oldest and youngest groups revealing statistically significant differences. Children also employed a greater variety of complex syntax, with the three-year-old group using significantly fewer types than the four- and five-year-olds. Linguistically, both the complexity and variation become increasingly important with age (Bloom & Lahey, 1978). Whereas repetitive syntax is characteristic of oral language,
concise syntax is typical of written language (Westby, 1991). In this respect, an increase in syntactic diversity may reflect an adoption of written language structure in narration. The current study supports this notion, suggesting that by the end of preschool a child has mastered (in form and function) the production of several types of complex syntax during narration. Researchers tend to agree that the earliest form of sentence combination is that of coordination (Berman & Slobin, 1994; Bloom & Lahey, 1978). Indeed, present findings revealed coordinate clauses to be the most common type of complex syntax for the three-year-old group, suggesting early linguistic competence in linearly relating events, whereas the older groups were able to construct and linguistically encode both linear and hierarchical relationships with a variety of complex syntax types. For example, this three-year-old seemed to be proficient at linear relations: “He wants buy a balloon. And walks with a balloon. Then the wind blows the balloon. And he’s to find it.” According to this child’s narrative, these events happen in sequential order, but lack any sort of deeper connection than a linear sequence in time. In contrast, we can see both causal and temporal relations in this five-year-old’s narrative: “In this one he’s getting a balloon. He’s walking down. He let go of the balloon and it went in the air. And this one he’s walking home sad. Because his balloon flied away.” The linearity of the younger children's stories is in line with earlier research suggesting three-year-olds' narrative capacities put them in "picture-description mode" (Berman & Slobin, 1994). These young children appear to not yet be capable of producing complex organization or relationships within their stories, but are able to describe and relate events linearly as shown in sequential order. Developmental gains in the proportion and diversity of complex syntax suggest that by the end of preschool, children are better able to produce depth in rich linguistic samples through the use of connective, linear, and hierarchical relations.

**Hypothesis Three:** It is hypothesized that significant advancements in story structure and type appear between ages in years, in that three-year-old children will produce descriptive narratives; four-year-olds will produce related narratives; five-year olds will produce motivated narratives. Number of story elements will increase with age, although none of the groups will reliably produce resolutions in their narratives.

Hypothesis three was confirmed, as the older groups included more story elements and produced higher quality narratives. For both measures of macrostructure, the three-year-old group scored significantly lower than the older groups. These findings
suggest internalization of story structure and knowledge of what makes a story good during
the preschool years. The most common story elements across ages were initiating event and
problem/action. Few children introduced locative or temporal settings in their narratives;
resolutions and internal responses were also uncommon. As for narrative quality, children
showed an increase with age in the ability to relate multiple events. On average,
three-year-old narratives were scored as descriptive, but lacked information regarding
relationships between the events presented in the pictures. The older children were proficient
at relating events in their narratives, with more children using motivated events by age five.

Research on emergent literacy suggests that through exposure to literate language,
children can internalize narrative structure as a necessary sequence of events (Kaderavek &
Sulzby, 2000; McCabe & Rollins, 1994; Sulzby, 1985). Although we cannot assume all
children in the current sample have had equal exposure to narrative language, findings
support that an increase in number of story elements may reflect the internalization of basic
narrative structure as the result of repeated exposure to narratives over time. Merely
producing story elements, however, does not fully account for adequate story production.
Good stories should contain important story elements to create a strong foundation, but need
themetic cohesion in order to tie these pieces together.

As for narrative quality, findings revealed a developmental increase in ability to relate
events (whether linearly or hierarchically) within a narrative. This is in line with a host of
previous research that has identified augmentation of story quality in terms of structure and
themetic relevance (Applebee, 1978; McCabe & Rollins, 1994; Paul et al., 1996). Within
this measure, the related-events type narrative was the most common for all ages, but the
findings also demonstrated a quantitative shift between the ages of three and four. Nearly
half of the three-year-olds’ stories used the less cohesive, referential styles of labeling and
describing. Typical of his age group, this three-year-old described each of the pictures in the
Balloon Story as events, but was not successful at providing a thematic relationship between
them: “It’s a balloon. This guy got daddy and he have a balloon. He just go over here. This
one he have five balloons. One, two, three, four, five, six, seven, eight, five. And that guy
take the balloon. And this guy got the balloon.” Although he mentions the same characters
and objects repeatedly, no specific information is provided to link the events together.
Common at this young age, these youngsters seems to be in “picture-description mode”, in
which they describe events separately, adjoining them with utterance-initial connectives such as “and” or “and then”. However, the occurrence of these referential narrative types decreased with age. In fact, irrelevant and labeling stories disappeared altogether by age four. The more thematic types of relating and motivating events increased with age, as demonstrated by this four-year-old’s related-events story: “Once upon a time there was a old woman. And then she was sick. And then she got - her mom got her teddy bear. And then she went to sleep.” This child demonstrates an understanding that each of these separate episodes represents part of an overall plotline, and relates them accordingly. Appendix C, Table C1 provides further examples for each narrative type. While linear relation often does not sufficiently describe the associations between story events, it does imply that the narrator has some idea that events within a story are connected. Moreover, sequential (linear) relations tend to appear first in early language, followed later by other associative devices (Berman & Slobin, 1994). Further supporting this claim, the frequency of motivating-events type (which require the child to infer causality) increased between ages four and five. The older group seemed to be better able to convey causal events, as in this five-year-old narrative:

A little bunny had a basket and she went to a farm and she grabbed all the carrots. And she went out of the farm. And she was eating one laying down. And when the horse was taking the basket and runned away and the little bunny runned after the horse so she could eat the rest of her carrots. And then they catched up with her and they ate carrots together to be friends cause she said, ‘wait a second I got those first’ when she was right here. And they made friends eating together.

Thus, after linearly-related stories have been mastered, scores demonstrate a rise in hierarchically-related stories. Research on language and play has noted that socio-dramatic play allows children to practice using language to convey these relationships to playmates (Pelligrini, 1985; Sachs et al., 1985). Engagement in this type of play is common by the end of preschool, which could account for the developmental gains seen in narrative cohesion and complexity.

Overall, developmental changes are seen during the preschool age that enhance decontextualization, linguistic structure and narrative quality when telling stories. Three-year-olds tend to exhibit early signs of narrative competence, but a consistent pattern of increasing scores implies that children's narrative production abilities are developing during this stage.
Developmentally, this jump in the use of complex syntax may also reflect an increase in representational abilities during preschool. Group means for length revealed nearly a one-to-one (proposition:picture) ratio in the three-year-old group (mean length in propositions=4.79). These children also showed lower levels of linguistic complexity. Together, these findings may be indicative of immature mental representation: these young preschoolers may not be able to connect the four pictures as related, thematically-sequential events. It is more likely, however, that at this age the children can conceive of the relationships presented in the stories, but lack the linguistic skills that are necessary in verbalizing them. Conversely, the four- and five-year-old groups seem to have mastered these skills, and are thus able to recruit more types of complex syntax more often in order to appropriately convey the pictures' contents and relations. Future studies might benefit from a brief comprehension task after producing the narratives, as production scores have been found to be lower than comprehension scores in narration (Feagans & Short, 1984). Another explanation for these differences could be the types of linguistic input the children are receiving at home and at school. Five-year-olds may very well be probed for more complex language and structure from their parents and/or teachers, whereas three-year-olds likely would not be subjected to the same demands. In terms of input, then, the older groups may have more experience and/or knowledge than the younger children due to a difference in stimulation. The collection of additional parent-child (or teacher-child) linguistic interaction data may be of interest to examine these factors. The current study, however, included specific regulations on allowable feedback from the researcher in order to mitigate the immediate effects of prompting.

Of all measures, the most sensitive to age were those in the domain of macrostructure. Older children included a greater number of elements in their stories and produced more thematically-cohesive narratives than the youngest group. Stein and Glenn (1979) proposed that successful stories should include a number of pre-specified narrative components. The current study examined story structure in a similar manner, tallying the number of story elements included in each child's stories. In terms of story structure, children of all ages used multiple story elements to move through the narrative sequence. Analyses showed significant differences between the groups, with the four- and five-year-old groups including from one to three more elements in their stories. The most common elements seen in
preschool narratives were initiating events and problem/action. These elements are crucial in providing a basis of the story as they set up the motivation and ascension towards the climax of the story (Stein & Glenn). Children were less likely, however, to produce a resolution or consequence in their stories. This finding supports earlier research that found children's stories increased in quality with age, but did not reliably include endings to their stories until age seven (McCabe & Rollins, 1994). Additional research has characterized young children’s stories as rarely providing a conclusion or ending (Kaderavek & Sulzby, 2000; McCabe & Rollins). Another important component in decontextualization is setting. Few children in the present study provided locative or temporal information in creating story context. Without this orienting information, narratives can be difficult for the listener to understand (Eisenberg, 1985). The lack of orienting information in preschool studies may well be the product of inadequate emphasis on the importance of orientation in early narrative exposure (Peterson & McCabe, 1994). Nonetheless, frequencies of each of the strong story elements increased with age, suggesting a growth in competence with underlying narrative structure, as well as the ability to encode it linguistically.

In general, findings reveal a notable increase in many abilities between ages three and four. The development of these skills may help prepare young children for further language instruction and literacy. As noted by Berman and Slobin (1994), development can be characterized as a progression from simplicity to complexity on many fronts. The present study strongly supports this claim and demonstrates this movement towards complexity as evident even during the preschool years.
CHAPTER 4

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The developmental patterns observed in measures of both microstructure and macrostructure revealed an increase in narrative production ability during preschool, especially between the ages of three and four. With age, preschoolers rely more on language to create elaborate, cohesive, and linguistically complex stories. Our findings support the notion that during preschool, children experience great gains in preliterate skills. Cognitively, an increase in mental representation ability during this period enables children to recognize the pictures as symbols of characters and events and to recount their relations. At first, their narratives are simple, referential descriptions of the pictures. By age four, however, they appear to have more facility with not only interpreting the pictures as symbols of related events, but also with employing more complex syntactic devices to encode the information. This supports a shift in the use of literate over oral language structure when producing a narrative storyline. In addition, a growth in representational skills affords children consideration of multiple perspectives, therefore enabling them to take on a role as narrator, attributing and inferring information from the characters and events within a story, and relating to the audience accordingly (Applebee, 1978; deVilliers, 2007). Therefore, it seems that the young child’s increase in representational and symbolic ability allows them to interpret a series of pictures as representing a string of related events. In turn, the quality of their stories increases as the stories become more organized and thus more comprehensible to the listener.

Although the younger group scored consistently lower than the older groups, the presence of these literate, linguistic, and narrative devices at all ages suggest an emergence not of these structures themselves, but an ability to recruit and integrate multiple cognitive and linguistic processes that enable comprehensible storytelling.

However, our data show little to no developmental increase from age four to five. Some measures reveal scores to actually decrease slightly between these groups. The lack of
narrative production development between ages four and five may not be representative of a global population, as the five-year-old group revealed large amounts of variance in all measures. Socio-economic status has been associated with educational levels and literacy exposure. Lower-SES schools may have fewer resources available to the children in terms of early literacy instruction and exposure. As previously mentioned, the three- and four-year-old groups in our sample were nearly all recruited from an on-campus daycare center at San Diego State University, the five-year-old group consisted of children recruited from public schools and homes around San Diego county, some of which represent lower-SES communities. When analyzed by school, the five-year olds’ responses from the lower-SES schools consistently scored below the other schools on nearly all measures. Furthermore, those who were tested in kindergarten classrooms may not have had previous pre-school experience, and may therefore already be behind the other children in terms of linguistic and narrative instruction.

Another matter of interest in the current study was to investigate the relationships between measures of narrative production ability. Positive associations were expected between all domains. As expected, literate language features usage was positively correlated with both frequency of complex syntax and syntactic diversity. This finding was not surprising, as literate language features are the basis for many types of complex syntax. In particular, the use of complex elaborated noun phrases was the most closely associated with both linguistic measures. This more sophisticated elaborative device was the most sensitive to age differences, showing similar developmental patterns to measures of microstructure. As previously mentioned, the use of coordinate clauses was common in all age groups; greater gains in microstructure scores required the use of literate language features other than coordinating conjunctions. Adverbial subordinators facilitated the use of adverbial clauses. Many instances of story verbs initiated verb complements. Despite the fact that literate language features themselves showed little increase during preschool, the use of these features in constructing complex sentences did increase, suggesting literate language features lay a foundation for linguistic capacities as well as narrative decontextualization.

Although these features are considered the indices of decontextualization (Curenton & Justice, 2004; Greenhalgh & Strong, 2001), correlation results showed weak to no association between literate language features and measures of macrostructure. Associations
were evident nonetheless, and should be re-evaluated in future studies with more statistical power.

As was expected, measures of microstructure and macrostructure showed strong positive associations. This demonstrates the utility of complex syntax to package more information into each utterance, increasing cohesiveness and comprehensibility. Overall, narrative quality was most correlated with the child’s proportion of complex syntax. This leads us to infer that linguistic and narrative organization requires cognitive flexibility to produce complex sentences that portray each story’s relations. With age, children seem to be more capable of using literate language features when constructing complex sentences. Stories scoring higher on syntactic measures tend to also score well on narrative quality. Therefore, the interrelatedness of these measures could be beneficial in identifying specific areas of deficiency in preschoolers’ narratives, and enabling individualized intervention strategies in remediation.

**Implications, Limitations and Future Directions**

As previously mentioned, the young child’s increase in mental representation and symbolic ability better allows them to interpret a series of pictures as representing a string of related events. In addition, children are known to develop the beginnings of a theory of mind during this period, which allows them to conceive of perceptions other than their own. This development is particularly important in storytelling, as the child must allude to the characters’ thoughts and emotions, and infer relationships between characters and events, as exhibited in the use of story verbs and other literate language features. Thus, as these and other cognitive processes improve, the child’s concept of narrative structure and production strengthens as shown in narrative language scores.

Each of the investigated measures has been linked to later academic and/or literate success (Curenton & Justice, 2004; Eisenberg et al., 2008; Feagans & Short, 1984; Justice et al., 2006). Strong correlations between these variables support the simultaneous development of many facets of narrative production ability during the preschool years and their interrelatedness. The present findings may be applied to a descriptive profile of stages in narrative development to promote the use of these skills for children who may struggle with early narrative language development. Explicit instruction on the form and function of
measures of decontextualized language, local-linguistic and narrative structure could be modeled from the normal developmental trajectory to enhance children’s understanding of the devices that elaborate stories and make them more comprehensible. Emphasis on these preliterate language structures could smooth the progress of literacy and text comprehension in the school years.

Several limitations to these interpretations should be noted. First, generalization of these results is cautioned, as the sample size was small and largely homogenous. The five-year-old group, however, included a handful of children recruited from a lower-SES school district, which could have influenced the scores of this group. Second, several environmental variables were not analyzed, including family income level, prior narrative exposure, and previous classroom experience. Lastly, while this sample included only children reported as typically developing, one must avoid assuming that none of these children will later be identified to have learning or reading difficulties. With these limitations in mind, results reveal an underlying developmental trend in preliterate linguistic and narrative abilities during the preschool years.

The current study found developmental gains in preliterate storytelling ability. However, further exploration of preschool narrative production is in order. First, more data should be collected and added to the current sample to increase statistical power. Of particular interest is to include children from diverse backgrounds and communities, to analyze economic and other differences between groups. Longitudinal data on current subjects would also be of interest to link early narrative production with later reading abilities or disabilities that currently cannot be diagnosed prior to literate instruction.

**CONCLUSIONS**

The present study aimed to identify the developmental trajectories of multiple domains within narrative production ability during preschool. Results implicate a notable shift in ability between the ages of three and four. While the youngest children scored significantly lower than the older groups on nearly all measures, their responses showed some evidence that they begin preschool with the foundations of many of these structures in place, yet are unable to utilize complex linguistic and narrative organization skills during narrative elicitation. With age, however, these more sophisticated abilities seem
to develop. Although story length did not differ significantly between groups, scores on most other measures did, revealing an increase in ability to package more information into each sentence, in turn increasing linguistic cohesion and narrative quality. Positive associations between domains support a multi-faceted structure of narrative language that can be measured on many levels, and that development in one domain should be mirrored by gains in other areas.

The current study highlights the observable development during preschool in relation to the cognitive, linguistic, and social skills that are characteristic of this period. By the end of preschool, children’s narrative scores suggest they are better prepared to master the local-linguistic and global-organizational levels of literate language structure. Findings emphasize the importance of narrative instruction and exposure during preschool, as these skills increase significantly during this period. The consistent pattern of increase across measures of narrative production skill suggests that even the youngest preschool children show measureable signs of preliterate language development, and the significant gains seen in narrative production scores with age warrant further investigation into preschool language profiles and the link between preschool narrative abilities and later literacy success.
REFERENCES


APPENDIX A

NARRATIVE TASK PICTURE SEQUENCES
Story A: The Balloon Story

Story B: The Nightmare Story

Story C: The Rabbit Story
APPENDIX B

LITERATE LANGUAGE FEATURE
DESCRIPTIONS AND EXAMPLES
<table>
<thead>
<tr>
<th>Type</th>
<th>Purpose</th>
<th>Examples</th>
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</thead>
<tbody>
<tr>
<td>Elaborated Noun Phrase</td>
<td>Distinguish characters and objects</td>
<td><strong>Simple</strong>: two modifiers and a noun e.g. “one little rabbit”, “a little bunny”</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Complex</strong>: more than two modifiers with a noun e.g. “the little rabbit’s carrots”, “a bag of carrots”</td>
</tr>
<tr>
<td>Conjunctions</td>
<td>Infer causal and temporal relationships</td>
<td>Coordinate: and, but, or, and then Subordinate: because, so, that, then, since, when, until, while</td>
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<tr>
<td>Adverbs</td>
<td>Elaboration of events (time, manner, degree)</td>
<td>Adverbs: “eating together”, “ran away”, “brought them back” Prepositional Phrases: “running from the rabbit”</td>
</tr>
<tr>
<td>Story Verbs</td>
<td>Infer characters’ thoughts and emotions</td>
<td>Mental Verbs: thought, knew, forgot, wanted e.g. “He wanted to go on the horse”, “the bunny didn’t know”</td>
</tr>
<tr>
<td></td>
<td>Character discourse</td>
<td>Speech Verbs: said, called, yelled, barked e.g. “she said, ‘wait a second I got those first!’”</td>
</tr>
</tbody>
</table>
APPENDIX C

COMPLEX SYNTAX EXAMPLES
<table>
<thead>
<tr>
<th>Type</th>
<th>Structure</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coordinate Clause</strong></td>
<td>Multiple propositions joined by a coordinator</td>
<td>“The horse ate one <em>and</em> the bunny ate one.” (3A)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“The girl is sleeping <em>and</em> her having a nightmare.” (4B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“The horse got the basket <em>but</em> the bunny didn’t know.” (4A)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“The horse was taking the basket <em>and</em> runned away.” (5B)</td>
</tr>
<tr>
<td><strong>Adverbial Clause</strong></td>
<td>Multiple propositions joined by an adverbial subordinator</td>
<td>“<em>because</em> she sees bad monster shadows.” (3B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“<em>When</em> the rabbit wasn’t looking, he put down the basket.” (5B)</td>
</tr>
<tr>
<td><strong>Relative Clause</strong></td>
<td>Dependent Clause set off by <em>that/who</em></td>
<td>“There was a man <em>who</em> won the balloon.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“There’s a bunny <em>that</em> got a carrot from the ground.” (5A)</td>
</tr>
<tr>
<td><strong>Verb Complement</strong></td>
<td>Infinitival and participial embedded clauses</td>
<td>“She <em>went to sleep.</em>” (4A).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“The bunny <em>tried to get</em> it.” (5B)</td>
</tr>
<tr>
<td><strong>Got Passive</strong></td>
<td>Informal passive - participant as non-agent</td>
<td>“She <em>got scared</em> about something.” (4B)</td>
</tr>
<tr>
<td>Type</td>
<td>Criteria</td>
<td>Example</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Labeling</td>
<td>Labeling or describing objects depicted in the pictures.</td>
<td>“This rabbit and those bunny and those horses and those bunny.”</td>
</tr>
<tr>
<td>Descriptive</td>
<td>Labeling or describing events depicted in the pictures.</td>
<td>“Um a horse. Finds carrot. Eat the carrot. Then after the carrot.”</td>
</tr>
<tr>
<td>Relating-Events</td>
<td>At least two events related linearly.</td>
<td>“The rabbits gots a carrot. The rabbit eats the carrot. The horses takes the carrot. And the rabbit’s mad.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“The rabbit’s got the carrot. And the horsey got the rabbit’s carrot. Then the rabbit’s trying to chase him. Then they share.”</td>
</tr>
<tr>
<td>Motivating-Events</td>
<td>At least two events related causally.</td>
<td>“The bunny found a carrot. And here the horsey takes the carrot. And soon all this day they’re running for the carrots ‘cause he’s so hungry.”</td>
</tr>
</tbody>
</table>
APPENDIX E

PERCENTAGES
Table E1. Percent of Stories Containing Complex Syntax

<table>
<thead>
<tr>
<th></th>
<th>3yr %</th>
<th>3yr n</th>
<th>4yr %</th>
<th>4yr n</th>
<th>5yr %</th>
<th>5yr n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordinate Clause</td>
<td>22</td>
<td>12</td>
<td>27</td>
<td>15</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Adverbial Clause</td>
<td>9</td>
<td>4</td>
<td>31</td>
<td>17</td>
<td>37</td>
<td>20</td>
</tr>
<tr>
<td>Relative Clause</td>
<td>0</td>
<td>54</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Verb Complement</td>
<td>19</td>
<td>10</td>
<td>33</td>
<td>18</td>
<td>31</td>
<td>17</td>
</tr>
<tr>
<td>Got Passives</td>
<td>0</td>
<td>54</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>54</td>
</tr>
</tbody>
</table>

Table E2. Percentage of Stories Including the Strong Story Elements

<table>
<thead>
<tr>
<th></th>
<th>3yr %</th>
<th>3yr n</th>
<th>4yr %</th>
<th>4yr n</th>
<th>5yr %</th>
<th>5yr n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiating Event</td>
<td>48</td>
<td>26</td>
<td>81</td>
<td>44</td>
<td>76</td>
<td>41</td>
</tr>
<tr>
<td>Problem/Action</td>
<td>35</td>
<td>19</td>
<td>74</td>
<td>40</td>
<td>72</td>
<td>39</td>
</tr>
<tr>
<td>Reaction</td>
<td>22</td>
<td>12</td>
<td>33</td>
<td>18</td>
<td>46</td>
<td>25</td>
</tr>
</tbody>
</table>

*Story elements not shown: Setting (character), Setting (time/location), Consequence, Internal Response.

Table E3. Percentage of Stories at Each Narrative Stage

<table>
<thead>
<tr>
<th></th>
<th>3yr %</th>
<th>3yr n</th>
<th>4yr %</th>
<th>4yr n</th>
<th>5yr %</th>
<th>5yr n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrelevant (no theme)</td>
<td>5.6</td>
<td>3</td>
<td>0</td>
<td>54</td>
<td>0</td>
<td>54</td>
</tr>
<tr>
<td>Labeling</td>
<td>16.7</td>
<td>9</td>
<td>1.9</td>
<td>1</td>
<td>0</td>
<td>54</td>
</tr>
<tr>
<td>Describing</td>
<td>27.8</td>
<td>15</td>
<td>16.7</td>
<td>9</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Relating Events</td>
<td>40.7</td>
<td>22</td>
<td>72.2</td>
<td>39</td>
<td>66.7</td>
<td>36</td>
</tr>
<tr>
<td>Motivating Events</td>
<td>9.3</td>
<td>5</td>
<td>9.3</td>
<td>5</td>
<td>20.4</td>
<td>11</td>
</tr>
</tbody>
</table>