Story Presentation Effects on the Narratives of Preschool Children

From Low and Middle Socioeconomic Homes

By

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Abstract

The purpose of this study was to examine whether preschool children from low and middle socioeconomic (SES) homes differ in their production of fictional story retells under two different presentation conditions. Story retells were elicited from 56 children, 28 from low-SES homes and 28 from mid-SES homes, in northeast Kansas preschools, once with an oral-only story model and once with a picture-supported oral story model. Analyses with mixed design ANOVAs indicated that the groups performed differently on both tasks in terms of inclusion of story grammar units and evaluative information, as well as in terms of lexical complexity. The reduced narrative and lexical complexity was evident in the group of children from low socio-economic homes. In addition, both groups told more complete stories under the picture-supported presentation of the story model than with the oral-only model in terms of inclusion of story grammar units and evaluative information, as well as lexical complexity. These findings suggest that preschool children are just beginning to acquire knowledge of the essential elements needed for inclusion when telling complete fictional stories and that visual supports are beneficial in making story elements more salient for preschoolers. Implications for curriculum development and future research are discussed.

Acknowledgment

"If you have knowledge, let others light their candles in it." ~Margaret Fuller

A life without stories would be no life at all. And stories bound us, did they not, one to another, the living to the dead, people to animals, people to the land? ~Alexander McCall Smith

I would like to thank my advisor, Dr. Diane Frome Loeb, for her guidance throughout my doctoral studies, for leading me from clinician to researcher and instructor, and letting me light my candle from hers so I can help others to light theirs. We share the joy of instructing and inspiring students in the field we love. I appreciate her patience and encouragement through these years. Also, I must give her special thanks as well for setting me along the path of examining children's narratives. When I was a clinician, I knew that the major problem many of my students had was that they could not tell their stories – and it is the stories of our lives that make us individuals and make us feel the most alive. For my first doctoral research project, Dr. Loeb provided me with some narrative data from a project which she wasn't going to immediately use. She asked me to familiarize myself with narrative assessment, evaluate the data, and write up the results. This began my fascination with the power and importance of narratives. By continuing along this research path that Dr. Loeb started me on, I can hopefully help more students to tell their stories and to feel more individual and alive as a result.

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Introduction

The ability to tell a narrative is a significant predictor of academic success (Fazio, Naremore, & Connell, 1996). As they enter school, children with early language delay exhibit continuing weaknesses in story grammar structure, lexical complexity, and evaluative information in their narratives (Manhardt & Rescorla, 2002). As a result, these researchers recommend clinical assessment of all three areas. However, all of the participants in the Manhardt and Rescorla (2002) study came from white, middle to upper-middle class homes and focused on the narrative skills of 8 and 9 year old children with expressive language delays. Fazio, Naremore, and Connell (1996) tracked children living in poverty who were at risk for specific language impairment from kindergarten to third grade on different language measures. Unfortunately, less is known about the fictional narrative skills of preschool children across the language continuum from low socioeconomic homes.

Further complicating the assessment of narrative skills, several studies have found that the stories that children tell are significantly affected by the type of elicitation task used by the examiner to request a story and the type of story (McCabe, Bliss, Barra, & Bennett, 2008; Merritt & Liles, 1987; Ripich & Griffith, 1988; Schneider, 1996; Schneider & Dubé, 2005; Spinillo & Pinto, 1994). One way that story assessment can vary is whether or not there is visual support (via pictures) or no visual support during a retell task. Whether the task has an auditory only (i.e., listening to the story) versus an auditory and visual context (i.e., listening to the story while viewing pictures) may impact the children's performance. These different presentation characteristics of narrative tasks

may differentiate children from low income homes from their peers from middle income homes.

The majority of studies concerning narrative assessment and all of the studies of working memory have been conducted with school-aged participants. Less is known about the emerging fictional story-telling skills of preschool children. This research examines the narratives of preschool children from both low and middle socioeconomic homes in terms of story grammar elements, evaluative elements, and lexical diversity when elicited under two different conditions, one that may assist their working memory and one that may not.

Narratives as an Integration of Language Domains

Narratives are the temporal sequencing of real or imaginary events (McCabe, 1991). Story-telling is the principal manner children utilize to make sense of their experiences (Hymes, 1982). The four genres of narrative tasks which "every society allows its young to hear and produce" include recounts, event casts, accounts (all of which report scenes based on fact), and fictional stories, with all four genres of narratives requiring gestalt-level processes of connecting similar and dissimilar experiences across space and time (Heath, 1986, p. 88). As well as linking events together for the listener, the narrator also helps the listener make sense of the story by implying causal and thematic relationships and by evaluating the importance of the events (Crago, Eriks-Brophy, Pesco, & McAlpine, 1997). Successful narratives are a complex integration of the varied domains of language skills, including vocabulary, syntax, morphology, and pragmatics (McCabe & Rollins, 1994), requiring that all aspects of language be honed at the discourse level.

Moreover, narratives convey from the speaker to the listener structured information which is not in the here and now, lacking immediate context to aid in the transmission of meaning. Linguistic and meta-linguistic skills are necessary to produce a decontextualized account (Curenton & Justice, 2004). Bruner (1990) described narrative as "one of the most ubiquitous and powerful discourse forms in human communication," requiring "four crucial grammatical constituents" to be effectively produced. These include (a) a means for emphasizing the actions directed by a goal which is controlled by "agentivity," (b) a standardized sequential order to "linearize" events and states, (c) sensitivity to what is and is not canonical in terms of human interactions, and (d) a narrator's perspective or voice. In other words, not only must the speaker convey information about what happens, but the reason for the events must be explained, events must be ordered in a certain way, events must be logical in terms of human relationships, and a speaker must interpret events through a personal perspective.

Evaluative devices are parts of a narrative that speakers use to accomplish personal interpretation. The speaker must utilize evaluative devices to link sequential events and to provide coherence by indicating global hierarchical perspectives (Bamberg & Damrad-Frye, 1991). Labov and Waletzky (1967) perceived the basic constituents of personal narratives to be a sequence of narrative clauses interspersed with single or multiple evaluative clauses. This evaluative role has been deemed equally important as the informative role in narratives (Labov, 1972).

The Role of Evaluation in Narratives

As mentioned previously, beyond the relating of characters, actions, and events, narratives include evaluative elements. These evaluative elements contain observations

that exceed the telling of events by providing an interpretation of the characters' mental states and causal links for their actions (Bamberg & Damrad-Frye, 1991). This commentary reveals the child's reason for telling the narrative and what the listener should think about the person, place, and events within the story, or, more simply stated, the point of the narrative. Examination of the personal narratives of young children reveals that evaluative comments are used around the high points of the story (Labov & Waletzky, 1967; Peterson & McCabe, 1983). Bamberg and Damrad-Frye (1991), in their examination of the fictional narratives of five- and nine-year-old children, noted that, for these older children, evaluative comments also function as sequential links between story events, adding to story coherence. In this way, they indicate a global perspective by organizing the parts of the story into a whole and providing meaning to the individual actions and event. A developmental aspect of children's usage of evaluation is represented. From the beginning, children place events and characters in perspective and emphasize their relative importance (e.g., Baby Bear was *really sad*). But, as they get older, children increasingly use evaluative comments to organize the sequence of events into a comprehensive, coherent sequence of events (e.g., Goldilocks ran away fast *because* she saw the bears standing by the bed).

Children as young as two years of age include evaluation in their personal narratives (Miller & Sperry, 1988). Three-year-old children can tie information regarding characters' psychological states to what they understand to be the precipitating causes and the resultant actions of those characters (McCabe & Peterson, 1985). Children from the mainstream culture between the ages of four- and nine-years-old who

are typically developing evaluate half of their comments in some way (Peterson & McCabe, 1983).

In a comparison of oral and written fictional narratives of five-year-old children, nine-year-old children, and college undergraduate students, Bamberg and Damrad-Frye (1991) found that even five-year-old children were able to use evaluative devices in third-person narratives. The adults used three times more evaluations than five-year-olds, and they used two-and-a-half times more evaluations than nine-year-olds, revealing an increase in evaluative devices with age.

Typical Development of Narrative Skills

Looking at narrative development from a social interactionist perspective, narrative discourse evolved as "a vital human activity" which we use to present ourselves and relate our experiences, create intimacy with others, share learning experiences, establish cultural myths, and create memories (McCabe, 1991). Narrative production, like all other communication, is contractual and must be expressed in a form or style which is predictable for the listener to anticipate and comprehend the discourse (Heath, 1986). Therefore, the speaker must be sensitive and responsive to the needs of the listener. Children learn how to represent sequenced events and evaluative comments in extended decontextualized discourse in a form recognized by their culture with parental and caregiver prompts in conversation. Adults request information and shape utterances (and later written passages) from children for increased clarity, specificity, and referential sufficiency, beginning with parents and their toddlers and continuing with teachers and their students (Levy, 2003; Peterson & McCabe, 1994).

Children's narratives can take the form of personal accounts of actual events or fictional renderings of fantasies or retellings of films and stories, but recounting of real personal experiences account for over half of their conversational narratives (Preece, 1987). The sequence for the development of personal event narratives of young children who are North American, European American, and English-speaking was described by McCabe & Peterson, 1991; Peterson & McCabe, 1983) using high point analysis. This analysis begins when the child is able to express two events into their longest narrative, which Labov (1972) used as the minimum requirement for a narrative. McCabe and Peterson (1983, 1991) found that children by the age of 3;6 were generally able to combine two events for their longest narrative, called a "Two-Event Narrative." By 4, children could lengthen their narratives beyond two events but did not necessarily sequence events chronologically, resulting in a "Leap-Frog Narrative." Children who use leap-frog narratives also tended to omit some of the events necessary for the listener to make clear sense of the children's story. By age 5, children are generally able to sequence events but tend to end their personal narratives on a climactic event, referred to as an "End-at-High Point Narrative." Evaluative devices are used by the speaker to denote the high point in the story. At age 6, children are able to create narratives which not only includes the "who, what, and where" for the action and organize the sequence of events into a climactic high point, they are also able to provide a resolution for the events, referred to as a "Classic Narrative." Undeveloped stories called "Chronological Narratives" may also be produced by adults and children of all ages when telling a list of loosely related events with no particular focus, such as a visit to a zoo.

Hudson and Shapiro (1991) examined the narratives of preschool children and found that they were more adept at structuring their personal narratives than structuring either general event scripts or fictional stories. General event scripts relate general descriptions of routine activities. By 3, the children could report the events of routine occurrences such as dressing, birthday parties, and eating at fast-food restaurants, including more actions and more complexity with age. Fictional stories were found to be the most difficult due to the complex needs for a coherent story, such as knowledge about the event, event schemas in general, and general social knowledge (e.g., motivations, interactions, personality types).

Moreover, Curenton and Justice (2004) found that children as young as three years of age use literate language features, such as complex elaborated noun phrases and adverbs in their oral narratives, underscoring the impact of early language stimulation before the preschool years. Peterson and McCabe (1994) studied the personal narratives of parents and children for 18 months when the children were between 26-43 months of age. These researchers found a relationship between parental input when a child is only 18 months of age and the child's output at 3 years of age in terms of the contextual orientation in their personal narratives, again highlighting the impact of the earliest language stimulation on a child's future language skills. Narratives demand the child's highest level of linguistic and pragmatic skills because a story schema, arranged following a learned set of distinctive rules and guiding principles, must be followed (Johnston, 1982). Without adequate exposure to input and practice support, the child may not be able to fully learn adequate narrative skills for academic success.

The Academic Impact of Narrative Skills

Because narratives are less contextualized than most conversation, they more resemble the language that is demanded in the academic classroom. Daily in the classroom, stories are read and written, and personal and fictional experiences are shared, making narrative a fundamental component of achievement in schools for both reading and writing (Snow & Dickenson, 1999). Narratives can be found across the curriculum, from a creative writing assignment in language arts class to a full description of a science experiment. They play a central role in education, both as a tool of instruction and as the foundation of event knowledge, to foster cognitive growth (Peterson, 1994). The ability to relate a coherent narrative has been determined to predate and predict successful progress in school literacy acquisition (Feagans, 1982). Upon initial entry into school, children are expected to exhibit certain narrative skills as indicators for school success (Peterson, 1994). Specifically, children are expected to be responsive to narrative prompts, and their narratives are expected to be informative, decontextualized, linguistically explicit of temporal and causal relationships, chronologically organized, and structurally well-patterned. Children entering Grade 1 unable to produce adequate narratives may exhibit difficulty with transitioning to written texts (Peterson, 1993). Fazio, Naremore, and Connell (1996) found that, for children from poverty, the best predictor of academic success in second grade was the ability to retell a story in kindergarten.

Narratives are representative of the language demanded of the classroom because they are less contextualized than most conversation and are principally rule-governed (Leap, 1993). Furthermore, narrative is utilized in the classroom for instructional

purposes across subjects, a means for children to learn public speaking, a support for writing, and a method for developing arguments and thinking in general (McCabe, 1997). Griffin, Hemphill, Camp, and Wolf (2004) found that the ability of five-year-old children to use evaluative devices to mark the significance of events in their fictional narratives was predictive of their reading comprehension skills as eight-year-olds and the ability of the five-year-olds to control story grammar organization in oral narratives predicted their written narrative skills as eight-year-olds, again highlighting the critical need for supporting the development of crucial oral competencies before kindergarten age.

Narrative discourse is one of the important oral language competencies necessary to become a skilled reader (Rollins, McCabe, & Bliss, 2000). Dickinson and Tabors' (2002) analyses of children in home and classroom environments revealed three critical dimensions of childhood experiences during preschool and kindergarten which are related to literary success in later grades: exposure to varied vocabulary, opportunities to participate in conversations within extended discourse, and cognitively and linguistically stimulating home and classroom environments. These researchers found that kindergartners' scores on measures of narrative production, vocabulary, and emergent literacy were highly predictive of their scores on reading comprehension and vocabulary as fourth graders and seventh graders. They also determined that although home and school variables were both important for explaining scores for vocabulary and emergent literacy, only home environment variables, such as the richness of parent-child verbal interactions and the amount of reading with the child, were significant predictors of narrative production.

Narrative Elicitation

Narrative elicitation tasks can take many forms, including story retells and spontaneous generation tasks, all with varying amounts of pictorial cues and verbal prompts (McCabe & Bliss, 2003). Elicitation methods can range from informal, loosely structured conditions to more formal, structured conditions for recounts of events and fictional storytelling. Personal narratives are elicited by prompting the child with a short, personal story from the examiner regarding a universal theme, such as an injury or interactions with siblings, and requesting the child to tell about a similar experience he or she has had. Formats for the assessment of fictional narratives vary to include the retelling of a story spoken by an adult, the generation of a story from a sequence of pictures, the telling of a story using an illustrated book with no words, and the generation of a story from a single picture stimulus. For mature, typically-developing children in second grade from the North American, English-speaking, mainstream culture, all formats ideally result in a narrative which have episodes that are temporally organized, a beginning, settings, actions, outcomes, endings, resolutions, and characters' internal responses (Schneider & Dubé, 2005). However, narrative abilities across narrative formats do not transfer automatically, and a child may employ different skills when producing narratives elicited in various formats (Shiro, 2003). The story retell format consists of the repetition of a story after a verbal model spoken by an adult or played on audiotape. This retelling can be after an oral-only model or include picture supports. The original story generation format consists of a request for the child to tell his or her own story in response to a verbal prompt and sometimes includes various picture supports. Pictures for both retell and original stories can be a single picture cue, a

sequence of pictures, or a wordless picture book. The narrative development of preschool children has been extensively studied by eliciting personal narratives (McCabe & Peterson, 1984; McCabe & Rollins, 1994), and analyzing for story structure, evaluative information, and linguistic complexity. Although, skillful telling of fictional narratives and the relating the substance of heard stories is the basis for later academic success (Schneider & Dubé, 2005), these fictional narratives and retells have not been as extensively studied in the preschool population.

Elicitation characteristics have been demonstrated to significantly influence a child's production of a narrative (Schneider, 1996; Schneider & Dubé, 2005; Spinillo & Pinto, 1994). Spinillo and Pinto (1994) compared the narratives of four-, six-, and eight-year-old Italian and British children resulting from four story generation tasks, one using a picture drawn by a child, one using a sequence of three pictures, one a telling of a made-up story, and one a dictation of a made-up story to be written down by the experimenter. Experimental variations were found to result in significant variations on the children's inclusion of story grammar elements, with similar performances for both the Italian and British children.

Using the wordless storybook *Oops* (Mayer, 1977), Schneider (1996) compared the narratives of sixteen white Canadian children with language impairments between the age of 5;7 and 9;9 elicited under four presentation conditions: (1) original story while viewing pictures, (2) story retell with an oral model followed by pictures, (3) story retell with oral model and simultaneously showing pictures, and (4) story retell with oral model only. The book *Oops* (Mayer, 1977) is comprised of five parallel episodes. Schneider prepared stories from four of the five episodes in both picture and oral forms for stimuli

by developing five-picture sequences for tasks which required visual stimuli and written versions for tasks which required an oral version. The oral versions of the stories were balanced for the number of words, clauses, conjunctions among clauses used in equivalent story grammar units, and characters, as well as for the amount of story grammar information. Each participant was randomly presented with all four stories, one in each of the presentation conditions. Schneider presented the stories to the children, who then told their stories to a naïve listener. This listener could not see the pictures in the pictorial support conditions and was only able to respond with neutral responses in all conditions. The children's stories were evaluated for measures of content, including number of story grammar units, different/relevant information, and measures of length, including mean length of units in morphemes, and number of words, utterances, and mazes (i.e., interjections, false starts, etc.). The children told stories with more complete episodes and information in the retell condition without picture supports. The stories with the fewest mazes but also the least story grammar information and the most extraneous information were told in response to the child seeing the picture without hearing an oral model. Pictures appeared to be a distraction from the processing and telling of the story, not a memory aid. However, these results were for children with language impairment; children without language impairment may respond differently to picture stimuli, with pictures acting more as a memory support than impedance.

Schneider and Dubé (2005) expanded the earlier work of Schneider (1996) to explore presentation effects for story retells with typically-developing, ethnically-diverse, and SES-diverse Canadian children in kindergarten and second grade. Again using the wordless picture book *Oops* (Mayer, 1977), story retellings were elicited under three

presentation conditions: (1) story retell with oral model only, (2) story retell with simultaneous oral and picture models, and (3) original story while viewing pictures. Three of the four oral and pictorial versions of the episode stories from Schneider's (1996) previous study were used. The children's stories were coded for story grammar content, including initiating event, internal response, internal plan, attempt, outcome, reaction of both primary and secondary characters, and three components of setting: main character, secondary character, and location or activity of the story. Stories were not coded for measures of story length. Both age groups of children were sensitive to presentation condition, resulting in differences in the number of story grammar units produced. Children in both groups presented more story information under the oral-only retell condition than the picture-only story generation condition. The children from the older group performed similarly in both oral retell conditions, regardless of visual support. The children from the younger group were able to provide more story grammar units when they both heard and saw the story in the combined oral and picture retell condition, but this result was not significantly greater than for the oral-only retell condition. The kindergarten children appeared to benefit somewhat more from a multi-sensory presentation and to be more sensitive to elicitation conditions than the second grade students.

Taken together, the results from the Spinillo and Pinto (1994), Schneider (1996), the Schneider and Dubé (2005) studies suggest that retell conditions may be more effective than story generation conditions for eliciting a longer, more complete narrative sample from young children. The Schneider and Dubé (2005) study also suggests that, although children with typically-developing language appear to have overall similar story

retell skills with respect to story grammar regardless of whether pictorial support is provided in the early elementary grades, the kindergarten children with typically-developing language may have benefitted somewhat from picture support in a retell condition. In comparison, children of the same age with language impairment produced better narratives in the story retell condition without pictures. There have been no studies with younger children, with or without language impairment, to determine if story retelling with or without pictorial support would lead to differences in their story telling skills. And, because socio-economic status was not controlled in these studies, no information indicates if additional differences were present as a result of language due to the results of low-SES as well.

These studies indicate story presentation effects vary depending on the age of child and type of stimuli used. The present research investigates whether preschool-aged children benefit from pictorial support during story retells and whether this support is affected by the child's socio-economic status. Original story generation tasks were not investigated because the previous research has demonstrated that younger children's stories are less complex in this condition than in a retell condition.

Methods of Narrative Skills Assessments

Methods of narrative skills assessment range from relatively informal and more loosely structured conditions for personal narratives to more formal, structured conditions for academic recounts of events and storytelling (Gillam & Pearson, 2004; McCabe & Rollins, 1994; Strong, 1998). Children's narratives can be assessed for language usage and for story structure, so language skills are examined on many levels, from syntax,

semantics, morphology to discourse and pragmatics. The narratives from these diverse formats have been examined both in terms of elements of microstructure (Fey, Catts, Proctor-Williams, Tomblin, & Zhang, 2004; Fiesta & Peña, 2004; Gazella & Stockman, 2003; Justice, Bowles, Kaderavek, Ukrainetz, Eisenberg, & Gillam, 2006; Liles, 1985; Munoz, Gillam, Pena, & Gulley-Faehnle, 2003; Paul & Smith, 1993; Sleight & Prinz, 1985) and macrostructure (Boudreau & Hedberg, 1999; Haywood, Gillam, & Lien, 2007; McCabe & Rollins, 1994; McFadden & Gillam, 1996; Munoz et al., 2003; Ripich & Griffith, 1988). These different analyses each provide singular information about the narratives. Microstructural analysis includes the analysis of syntactic, lexical, and morphological complexity. These measures have been found to be the most sensitive to distinguish older children ages 7 to 12 with language disorders from their typically-developing peers (Liles, Duffy, Merritt, & Purcell, 1995). Macrostructural analysis includes the analysis of story grammar elements and episodes. An inspection of story grammar elements focus on what Labov (1972) referred to as the "high points" or "suspension points" of a story. This concept was developed further into a system of high point analysis, used predominantly in evaluation of personal narratives (Peterson & McCabe, 1983; McCabe & Peterson, 1984; McCabe & Rollins, 1994). For examination of story episodes, Glenn and Stein (1980) developed a system which determined the presence of episodic elements such as setting, characters, problem, plan, and resolution. In an analysis of the narratives of school-aged children, Goldman and Varnhagen (1986) found that the inclusion of these story grammar units was able to uniquely account for a significant amount of variance in predicting the probability of the inclusion of story events. The scoring of the number of story grammar units provides a direct measure of

the amount of basic content included by children in their stories (Schneider & Dubé, 2005).

In addition, macrostructural assessment of narratives includes analysis of evaluative elements. The narrator uses these devices to tell the importance or relevance of the events within a story. The assessment of evaluative elements is crucial within the analysis process (Bamberg & Damrad-Frye, 1990; Labov & Waletzky, 1967; McCabe & Rollins, 1994; Ukrainetz & Gillam, 2009). The early work of Labov and his colleagues focused on the formation of evaluative clauses, classifying exemplars into the four linguistic categories of (1) intensifiers, (2) comparatives, (3) extensives, and (4) explanations (Labov & Waletzky, 1967; Labov, Cohen, Robins, & Lewis, 1968). Peterson and McCabe (1983) expanded these four categories into 21 categories of linguistic and paralinguistic devices to identify and grid children's signaling of evaluative comments from the ages of 3;6 to 9;6. Their research revealed that four of these linguistic and paralinguistic devices were predominantly used by all ages. These four devices included (1) gratuitous terms (lexical markers used as adverbs), (2) stressors (the paralinguistic marker of vocal emphasis), (3) negatives (both lexical and syntactic), and (4) causal explanations (lexical markers with syntactic and clausal implication). Bamberg & Damrad-Frye (1990) combined Labov and Waletzky's discourse-analytical approach with Peterson & McCabe's form-function relationships approach. A blending of the most common categories from the previous research resulted in the five categories of linguistic devices. These five included (1) references to feelings and mental states, or 'frames of mind' (e.g. *happy, mad, confused),* (2) the direct and indirect reported speech of characters, (3) distancing devices or 'hedges' (e.g. *probably, maybe, sort of),* (4)

references to negative actions and states of mind, and (5) causal connectors.

Children's use of evaluative devices in their fictional narratives may be impacted by socio-economic status as well. In a study of first and fourth grade children from upper and lower SES homes, Shiro (2003) found no significant differences in the use of evaluative devices in the children's personal narratives for either age group or SES status, consistent with the findings of Peterson and McCabe (1983). However, for both SES groups, the children from lower SES homes were found to use not only significantly fewer evaluative devices but also fewer types of evaluative devices in their fictional narratives than their peers from upper SES homes. Shiro (2003) concluded that narrative abilities in one narrative type do not necessarily transfer to another.

How Poverty Impacts Children's Narrative Skills

Children raised in poverty face many challenges, including successful academic achievement (Hart & Risley, 1995, 2006; Roseberry-McKibben, 2008). They face a lifetime of subsequent economic disadvantage and are at-risk[1] for academic failure for which schools alone are not able to compensate (Brooks, 2006).

In the United States in 2008, eighteen percent of children below the age of 18 years lived below the federal poverty threshold of $21,200 for a family of four (National Center for Children in Poverty, 2008). Families generally need an income double the poverty level to meet most basic needs; below this level, families are considered low income. Approximately forty percent of children live in low income families, indicating that many basic needs are not being met (National Center for Children in Poverty, 2008). Impoverished families from low socioeconomic status (SES) live in more isolation than mainstream families, resulting in less access to child care, information, and emotional

support (Roseberry-McKibbin, 2008). The home disadvantages of reduced access to verbal interactions and literacy experiences may result in lower language skills in school for children from low-SES homes (Zevenbergen & Whitehurst, 2003). The effects of poverty, with all of the associated biological and social risk factors, result in children growing up with reduced literate language (including narrative) skills, and adults who grow up with reduced literate language skills are more likely to end up in poverty.

Hart and Risley (1995) documented the language of children from high- and low-SES homes from the start of their language development until the age of three years. The language of their caregivers was also recorded and analyzed. The children's language skills were then measured at age 3 and at ages 9 to10 (third grade). In this seminal longitudinal study, it was revealed that the language of primary caregivers in the interaction with the child from birth to the age of three years leaves an indelible mark in the language of the child. As a consequence, Hart and Risley (1995) found that although the poorest families they studied were resilient, took great joy in their children, desired them to do well in school, and gave them sufficient input to acquire language, there was nevertheless a dramatic difference in amount of talk directed to their children, which led to dramatic differences in vocabulary and complexity of language. By their third birthday, a child from a high-SES home had been exposed to approximately 30 million more words and, as a result, more complex and varied language, than a child from a low-SES home (Risley & Hart, 2006). Consequently, the children raised in low-income homes, regardless of race or ethnicity, had smaller and less diverse vocabularies compared to children from higher income homes. The children from the low-SES homes were also found to be exposed to fewer quality features of language, such as temporal,

causal, symbolic, and qualitative relations, resulting in lesser language diversity in the children's language, lower IQ scores, and poorer reading skills. The researchers found that the experiences of a child are cumulative for cognitive growth as well. More experiences during infancy stimulate more cortical development as well as more habits of observing and developing schemas for categorizing and organizing new experiences. The amount and richness of experiences further impacts a child's motivation and confidence, enhancing hereditary traits. Conversely, lack of early experiences confined this base for language and cognitive skills, setting an impoverished trajectory for further growth (Hart & Risley, 1995). For these three- and four-year-old lower-SES children and middle-SES children in Kansas City, Walker, Greenwood, Hart, and Carta (1994) found that SES-related differences in the children's language prior to school entry were predictive of measures of verbal ability, receptive and expressive language, and academic achievement in each subsequent year of elementary school.

Subsequent research has further supported these results. Vocabulary development has been found to be impacted by a child’s exposure to the richness of the language environment (Hoff & Naigles, 2002), socioeconomic status (Hoff, 2003), as well as cultural experiences (Trumbull, 2005). Children have been found to be placed at-risk for progressive and cumulative poor school performance as a result of both home and early schooling factors related to low-SES (Walker et al., 1994).

The culture of poverty can impact all families, regardless of ethnic origin, race, religion, native language, or any other group distinction (Roseberry-McKibbin, 2008). For example, lack of funds can affect the types of personal world experiences and assumptions about the narrative task that a child has. Also, a child in poverty has fewer

opportunities for trips to places such as restaurants, zoos, museums, farms, and the library, so fewer chances for discovering the settings and schemas of activities in these locations. In the impoverished home, there may be fewer books and magazines available. For example, in a study of four Philadelphia neighborhoods, Neuman and Celano (2001) found that only one book title was accessible for every 300 children in poor communities, whereas 13 book titles were accessible for each child in middle-SES communities. There may be less time for reading and story sharing, so fewer chances for rehearsing storytelling skills (Hart & Risley, 1995; Roseberry-McKibbin, 2008). With fewer contexts and practice opportunities, the child from an impoverished home will not be able to generate a comparable narrative performance as the more affluent child (Gutiérrez-Clellen & Quinn, 1993). These studies have findings consistent with those of Hart & Risley (1995).

Heath (1983) demonstrated how factors due to SES can impact children's narratives beyond the factor of race. Heath (1983) examined the narratives of children from three communities: a white working-class community, a black working-class community, and a white middle-SES community. All three groups of children had unique experiences in conversation with their parents and were successful communicators within their social communities. However, when they entered school, the children from all three communities were expected to have already learned the form of narrative genre used for academic instruction. At this point, the children from the working-class neighborhoods, both black and white, were at a disadvantage and unable to perform successfully, whereas the children from the middle-SES community had the narrative skills expected by the mainstream school system for academic achievement. The home

experiences of the middle-SES students before formal schooling even began provided the narrative proficiency and guided practice needed for school success.

Variations of the impact of poverty related to the severity of circumstances were further exemplified by Peterson (1994) in a study of the narratives of three groups of Canadian preschool children (mean age 4;7) who were racially and culturally balanced, with one group from middle-class homes and two groups from economically-disadvantaged homes. Of the latter two groups, the participants for one group were recruited from a preschool for children from families who were on welfare, and participants for the other group were recruited from a preschool for children with disorganized, chaotic homes. This last group of children had been referred to this preschool by social work caseworkers due to a history of foster care, poor parenting skills, and disorganized family lives. Personal narratives were elicited, and structural patterns were analyzed following high-point analysis (Peterson & McCabe, 1983). Neutral prompts were allowed during elicitation of the narratives to encourage a child to tell the best story possible. Even though the children from economically-disadvantaged homes were able to produce narratives as long and informative as the children from middle-class homes, extensive prompts were necessary for them to produce the longer narratives. Also, the children from economically-disadvantaged homes used fewer complex linguistic markers to indicate temporal and causal relationships. Their narratives were not as well-patterned and confusing, lacking adequate chronological and logical sequencing.

In another study specifically targeting the interaction between narratives and poverty, Fazio, Naremore, and Connell (1996) designed research to track and

differentiate between children from poverty who were on the lower end of the continuum of normal language performance and children from poverty with specific language impairment. These researchers studied 34 children from low-income homes from kindergarten through second grade. The children's language was measured using a story-retelling task, a rote-memory ability task, an invented morpheme learning task, and a standardized language test. Seven of the twelve children who scored lowest on the standardized language test in kindergarten were determined to have typically-developing language in second grade, underscoring the need to differentiate between the effects of poverty on language performance and the effects of language impairment to prevent misdiagnosis and misplacement into language therapy services. At the beginning of the study, 24 of the 34 children were believed to be at risk upon entering kindergarten. At the end of the first grade, eight of these children were diagnosed as language-impaired, and, at the end of second grade, only six were diagnosed as language-impaired. These results suggest that not all of the measures at the beginning of kindergarten were sensitive enough to sufficiently differentiate between low language skills from various sources. The story retelling measure consisted of an adult reading an illustrated storybook to the child and then requesting the child to retell the story while looking at the pictures. Prompts such as "And then what happened?" and "What's next?" were allowed as needed. No child refused to retell the story. The children's narratives were scored for the number of complete episodes (defined as an initiating event, an attempt, and a consequence) included out of a possible total of four possible episodes. The criterion for a successful narrative was for the child to have included at least three out of the four episodes in the story. Even with this minimal benchmark, story retelling in kindergarten

was found to be the best single predictor of academic status in second grade for the children in the study who received academic remediation, defined by retention in a grade, a special education diagnosis, or enrollment in summer remedial programs (47% of the children in the study) and included all of the six children who were diagnosed as language impaired.

In sum, the effects of poverty can have confounding effects on the assessment of children's language skills, including the ability to tell narratives. Because poverty can play a depressing role in children's acquisition of language skills, children from low-SES homes may receive lower scores on language tests which mimic the scores of children with language impairments, resulting in difficulties in diagnosis of and the potential under-identification of children with language learning impairments as well as the possible false identification of some children with typically developing language as language impaired (Fazio, Naremore, & Connell, 1996). The present study examined whether story retells could be a culturally sensitive measure of narrative skills for children regardless of socioeconomic status and whether story retell condition differentially impacts the narrative skills of preschool-aged children from low-SES homes compared with those of preschool-aged children from mid-SES homes.

Working Memory and Narratives

Although current research is only beginning to examine the role of working memory in narrative comprehension, the construct of working memory may be instrumental in understanding why children may perform differently on narrative tasks due to SES. First, a model of working memory as it relates to language will be discussed, followed by a discussion of the potential influence of working memory on narrative

performance, the extra impact of visual support (i.e., pictures during story retell) on the system, and the confounding effects of poverty will then be explored. The model of working memory (WM) proposed by Baddeley and Hitch (1974) and expanded by Baddeley (2000) refers to a restricted capacity system which allows for the temporary storage and processing of information so that complex tasks, such as comprehension and reasoning, can occur. Storage refers to the temporary retention of verbal information that has been processed, and processing refers to the language computations generating linguistic representations of the input (Justice & Carpenter, 1992). In this concept, WM is composed of four components: the phonological loop, the visuospatial sketchpad, and the episodic buffer, which are all systems controlled by the central executive (Baddeley, 2000). The phonological loop holds memory traces of verbal and acoustic information in the temporary storage component for a matter of seconds to be compared with information from long-term memory (LTM). These traces decay unless refreshed by an articulatory subvocal rehearsal component which serves to both maintain information in the store and register visual information if the item can be named. This phonological loop may play a key role in the acquisition vocabulary, especially in the early childhood years of 4-13 (Gathercole & Baddeley, 1989; Baddeley, Gathercole, & Papagno, 1998), and in the acquisition of foreign language vocabulary learning (Baddeley, Papagno, & Vallar, 1988; Papagno, Valentine, & Baddeley, 1991). The visuospatial sketchpad functions to integrate spatial, visual, and possibly kinesthetic information so that it can be temporarily stored, manipulated, and compared to information in LTM. Under this model, storage and processing functions share the same limited pool of resources in the WM system. Moreover, the amount of attentional resources and activation available in

WM varies among individuals (Justice & Carpenter, 1992), resulting in limitations in comprehension and functional working memory. During comprehension, if attentional energy is directed to visual tasks, reduced resources may be available for attention to and manipulation of verbal tasks (Montgomery, 2003), affecting verbal performance in tasks which include visual stimuli such as pictures. The verbal codes in the phonological loop and the visual codes in the visuospatial sketchpad are combined and linked with representations in LTM by the episodic buffer. The episodic buffer serves as a temporary storage system to combine the information from the other subsystems and the LTM in a larger quantity than the phonological or visual subsystems alone are able to handle. This increased capacity supports the "chunking" of information (Miller, 1956) and the retention of prose passages (Baddeley & Wilson, 2002). This subsystem is "episodic" in that it binds together information from numerous sources into episodes, and it is a "buffer" in that it provides simultaneous interface among other systems using a common multi-dimensional code. This buffer provides a mechanism for creating new cognitive representations as well as providing a conceptual model of the immediate environment where the person is, thus facilitating problem solving. The episodic buffer is therefore assumed to provide a basis for conscious awareness (Baddeley, 2003). The episodic buffer, phonological loop, and visuospatial sketchpad are controlled by the central executive, which manipulates attention by allocating simultaneous processing and storage. Working memory is limited, therefore, by the capacities of the phonological loop, the visuospatial sketchpad, and the episodic buffer, by the available processing speed, and by the attentional allocation limits and capacity of the central executive (Montgomery, Magimairaj, & Finney, 2009).

This model of working memory organization was investigated with 4-6 year-old children (Alloway, Gathercole, Willis, & Adams, 2003). Over 6oo children were tested on measures of verbal short-term memory, complex memory span, sentence repetition, phonological awareness, and nonverbal ability. The best fit for the data collected was the multi-component model of working memory incorporating the constructs of the central executive, the phonological loop, and the episodic buffer, plus associated constructs for phonological awareness and nonverbal ability. Further research by Spaulding, Plante, and Vance (2008) investigating the sustained selective attention skills of preschool children supported the working memory model of separate stimulus modalities and suggested separate attentional capacities for the various stimulus modalities. No further distinctions were examined in either study, though, in terms of socioeconomic status.

Montgomery, Polunenko, and Marinellie (2009) investigated the role of working memory in school-aged children's auditory comprehension of narratives. Children, 6-11 years old, were given tests of phonological short-term memory, attentional resource capacity/allocation, and processing speed. The comprehension subtests of the Test of Narrative Language (TNL, Gillam & Pearson, 2004) were also administered. The associations between the memory variables and comprehension tasks were examined. Although phonological short-term memory has been found by previous research to be necessary for complex sentence comprehension (Montgomery & Evans, 2009), here it was not found to play a substantive role in the children's understanding of spoken narratives because the amount of information to be stored and integrated exceeds the structural and temporal limits of this system. However, attentional resource capacity/allocation of the central executive and processing speed were found to

significant contributors. Capacity and allocation allows for previously processed information to be stored, identified, retrieved, and reactivated to be integrated with new information to update the developing mental model. Processing speed allows this process to be accomplished in a timely manner, tying coherent meaningful representations beyond the sentence level to the overall story level in real time. The mental modeling space to retrieve and integrate stored information with incoming information is the episodic buffer (Baddeley, 2000; Baddeley & Wilson, 2002). In this study of auditory narrative comprehension (Montgomery et al., 2009), SES was not an independent variable. Integral in the model of working memory is the storage of past information in long-term memory and its retrieval by the episodic buffer for contribution to incoming information for the construction of the current mental model. Children from low-SES homes with less exposure to narratives and less support in constructing narratives would have fewer opportunities to store information in long-term memory for availability in the episodic buffer. This paucity of previous information may consequently impact their narrative performance.

Even though research on working memory up to this point has not been conducted on narrative production, the results at the sentence level (Montgomery & Evans, 2009; Montgomery, Evans, & Gillam, 2009) allow for assumptions of reduced response to even more complex tasks at the narrative level. Further, findings by Spaulding, Plante, and Vance (2008) suggest that the extra demands of visual stimuli may for some children reduce their ability to provide sustained selective attention to tasks in the auditory mode, which may allow for assumptions of reduced response to more complex tasks at the narrative level when the extra demands of pictures from storybooks are included.

However, research has been limited to individuals who are from middle to upper SES homes. Research has not yet investigated whether children who are at-risk for the effects of poverty but who are otherwise typically developing are constrained in the performance of tasks of working memory.

Rationale and Research Question

Rationale. Previous research has demonstrated that children at different ages and in diverse groups produce narratives in distinctive ways depending on story presentation prompts (McCabe & Bliss, 2003; Schneider, 1996; Schneider & Dubé, 2005; Spinillo, 1991; Spinillo & Pinto, 1994). Other research has exhibited that children who live in poverty are at risk for delays in learning language skills, including narrative skills, which are the culmination of coordinating and using all aspects of language on the discourse level (Hart & Risley, 1995; Roseberry-McKibbin, 2005). The consideration of narrative abilities in assessment and intervention with very young children who are at risk for language learning difficulties is crucial given the importance of narrative in future academic and social success (Boudreau, 2008). Given the sensitivity of children at different ages to story presentation conditions, the possible capacity of narrative retelling to predict academic success in later school years, and the importance of early identification of language needs for academic success, more research should be pursued to determine the most efficacious means for eliciting a story retell from a preschool child regardless of socioeconomic status.

The present research builds on previous research with older children to explore a primary question of interest in a younger population. The goal is to compare the narrative skills of young children from low-SES environments with those of young

children from mid-SES an environment using two presentation methods to elicit fictional narrative retells.

Research questions.

1. Do the narratives of preschool children differ depending upon the type of story retell condition (i.e., story retells with picture support and story retells without picture support) used to elicit the child's story?
2. Do the narrative skills (i.e., number of story grammar units, the amount of evaluative information, and the lexical complexity) of preschool children differ depending on low and middle socioeconomic status?

Methods

Participants

A total of 56 children, ages 4;0 to 5;3 (years; months), served as participants. The children all attended preschools in a rural county of northeast Kansas. Narratives were elicited from children who were from low-SES homes (n = 28, 13 male/15 female) and from children from mid-SES homes (n = 28, 18 male/10 female). Some of the children from the low-SES group attended Head Start centers in two different towns, and some of the children from the low-SES group and all of the children from the mid-SES group attended preschools in the public school systems of three different towns. The populations of these small towns ranged between 570 and 1190 people. Many definitions of socioeconomic status are based on a composite of income, education, and occupation. There is no standard formula available. For this study, the 2009 guidelines for poverty

thresholds by family income in relation to family size (U.S. Census, 2010) were followed to place children in the low-SES group.[3] Also, a maternal education level of no higher than a high school education was accepted, but a mother may have gathered "technical/vocational" hours while in high school. Children in families with higher incomes than poverty but below $100,000 per year were placed in the mid-SES group. Also, levels of maternal education were higher than high school (A.A. or B.A. degree) but below the graduate level. Mothers who were teachers also had continuing education hours for the Masters degree in Education.

Participants did not present with gross neurological, cognitive, emotional, or hearing conditions in addition to language impairment, such as visual or hearing impairments, autism, or developmental delays. English was the sole language at home and in the preschool, and all children had passed routine school hearing screenings, as per parental report on a parent questionnaire (Appendix A). Other testing included the Clinical Evaluation of Language Fundamentals - Preschool, Second Edition (CELF-P-2; Wiig, Secord, & Semel, 2004) and the Nonverbal Matrices subtest of the Kaufman Brief Intelligence Test, Second Edition (KBIT-2; Kaufman & Kaufman, 2004). The CELF-P-2 includes measures of receptive and expressive language and expressive vocabulary which takes approximately 30-45 minutes to administer. Its manual reports the Core Language Score has good sensitivity (85%) and specificity (82%) as well. The Nonverbal Matrices subtest of the KBIT-2 assessed nonverbal cognitive skills. The children all achieved a standard score of greater than 85 on the Matrices subtest of the KBIT-2. Table 1 provides child characteristics for age, KBIT-2, and CELF-P-2 scores. As expected from the research of Hart and Risley (1995), the mid-SES group attained significantly higher

scores on all measures than the low-SES group. The Cohen's *d* value is a standardized measure of the magnitude of an observed effect with *d*=.2 representing a small effect, *d*=.5 a medium effect, and *d*=.8 a large effect) (Cohen, 1988, 1992). The *d* values indicate a medium effect size for the Nonverbal Matrices score from the KBIT-2, and medium effect sizes for receptive language and language content scores and a large effect size for core language and language structure scores from the CELF-P-2.

Table 1

Participant Characteristics

	Low-SES Group (N=28)			Mid-SES Group (N=28)					
Gender	13 male, 15 female			18 male, 10 female					
	Mean	Range	SD	Mean	Range	SD	*t*(54)	*p*	*d*
Age (months)	54.32	48-60	3.963	56.61	48-63	4.541			
KBIT-2 – Matrices Subtest	99.54	86-113	7.441	103.86	90-124	8.352	2.044	.046	-0.546
CELF-P-2 – Core Language	94.79	71-112	10.304	104.61	86-127	9.651	3.681	.001	-0.992
CELF-P-2 – Receptive Language	89.96	61-111	12.231	96.86	77-111	8.086	2.488	.016	-0.666
CELF-P-2 – Expressive Language	94.71	69-119	11.489	103.50	85-126	9.155	3.165	.003	-0.846
CELF-P-2 – Language Content	91.89	65-112	10.347	98.21	81-114	8.426	2.507	.015	-0.670
CELF-P-2 – Language Structure	93.00	63-120	14.150	103.86	94-121	12.552	3.564	.001	-0.953

Note. For the subtest of the KBIT-2 and for all categories of the CELF-P-2, higher score advantage is for the mid-SES group.

The number of subjects to answer research questions that investigate relations of story retell skills between measures of low-SES and mid-SES groups was determined using G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) software available online to

calculate total sample size required for a desired effect size. For a repeated measures ANOVA with within- and between-group interactions, at an α-level of 0.05, a power of 0.80, an effect size f value of 0.25 (representing a medium effect size, Cohen, 1988, 1992), and with two presentations conditions, two groups of subjects, and three measures, a total sample size of 56 subjects (28 per group) was required.

Procedure

Pilot studies. Two pilot studies were conducted to assess stimuli and narrative elicitation procedures prior to the final version of stimuli and elicitation procedures used in the current study. In the first pilot study, the author created equivalent story episodes using the pictures from the wordless picture book *OOPS* (Mayer, 1977). This book was chosen because of use in previous research (Schneider, 1996; Schneider & Dubé, 2005) and its parallel episodes. *OOPS* depicts a series of misadventures featuring a female hippopotamus whose small actions create unintentional catastrophic reactions. The series of events are represented in individual episodes which are complete and parallel in terms of episode components. All episodes have the same main character with a different secondary character, setting, initiating event, internal response, plan, and attempt by the main character, consequence to that action, and reactions by both the main and secondary characters. As a result, different episodes that are consistent in form can be used in the various task conditions without children becoming familiar with a specific story. Also, episodes are short, so testing is expedient for short attention spans. Thus, demands on memory, attention, and behavior may be reduced, mitigating these potentially confounding factors. These story episodes were used as stimulus stories to elicit

narratives from the children under two conditions: oral-only retell and oral retell with pictures.

Stimuli development. The first pilot study was conducted utilizing episodes from *OOPS* (Mayer, 1977) to gather preliminary information about the response of four-year-old children from low- and mid-SES groups to the story episodes under the target presentation formats and to evaluate the materials to elicit and to assess the retells. Four pictures for each story episode were copied from the book, attached chronologically in a separate folder for each episode, and laminated. Four picture sequences, as opposed to the five picture sequences as used by Schneider (1996) and Schneider and Dubé (2005), were developed. Schneider (1996) did not report the oral stories used in her study. Schneider and Dubé (2005) did report the three stories that they used for their older participants. However, to simplify the stories for younger participants, this researcher developed shorter written versions of the episodes and balanced them for story grammar units, evaluative information, and lexical complexity, including number of C-Units, number of dependent clauses, number of dialogue statements, number of words, number of different word roots, MLU in words, and MLU in morphemes (Appendix B). Four students who attended the Four-Year-Old At-Risk Preschool[2] in Valley Falls, Kansas participated. Two children had been determined to be at-risk for future academic achievement due to poverty based on risk factors (e.g., family income, teenaged parents) by U.S.D. #338, following Kansas state guidelines for participation in a state-funded Four-Year-Old At-Risk preschool[2]. The mothers of these two children had completed high school but had not attended college. One of the two children had also been diagnosed with language impairment by the local speech-language pathologist. The other

two children were peer models from middle class homes, and their mothers had college educations.

For this first pilot study, four story episodes from *OOPS* (Mayer, 1977) were used, one as an introductory story to familiarize the children with the story-telling situation and further acquaint them with the examiner, and the other three in three experimental elicitation conditions: an oral-only retell condition, a picture-supported retell condition, and an original story generation with picture support condition. In the story generation condition, the picture stimuli were shown, but no oral model was provided.

The children participated individually in two testing sessions which were scheduled within one week of each other. During the first session, a standardized language measure and a brief non-verbal cognitive subtest was administered. During the second session, the tester read the model stories. First, the introductory story was read to the child while viewing the pictures to familiarize the child with the story sharing experience and the examiner. The researcher reviewed the parts of the story with the child, responding to the child's comments and questions appropriately with interest. No response was expected or required from the child at this time. Next, the child was introduced to a rabbit puppet that was “very shy with adults but likes to listen to stories told by children.” The puppet acted as a “naïve listener” who has not heard the story and did not look at the pictures to limit the possibility of the child assuming shared knowledge. With a familiar listener with access to shared contexts, a listener may assume mutual knowledge of story content with the listener and omit crucial details and evaluative information when telling a story. Puppets have been used previously with young children as a valid measure to avoid the assumption of shared knowledge (Craig &

Nakayama, 1987; Meroni, Gualmini, & Crain, 2000; Gualmini, Meroni, & Crain, 2003; Gualmini, 2004). Also, the puppet was used instead of another examiner to replicate clinical conditions for busy clinicians where an extra person is many times inaccessible but the need for the illusion of a naïve listener exists. After listening to the story and the appearance of the puppet “listener”, the participant was instructed to tell the puppet “as much as you can.” If the child did not speak, the child was asked “How does it start?” and, if no response, “What happened in the story?” If the child still did not respond, the child was allowed to try another story if there was another or to finish testing if no other was available. If a child did tell a story, when the child stopped speaking, the child was asked, “Do you have anything more to tell me?” For all conditions, the puppet listener (the researcher holding the puppet) responded to the child's utterances only with neutral responses such as "okay", "uh-huh", "oh", etc. If the child stopped talking without an ending statement such as "the end," the puppet listener asked, "Do you have anything more to tell me?" The presentation order of the elicitation formats and of the story episodes were randomized to preclude a presentation order effect.

Two children declined to respond under the oral-only retell condition; one child from the mid-SES group and one from the low-SES group. The child from the mid-SES group responded well in the other two conditions. The refusal to respond for this condition may have been due to an order effect; this was the final story requested of the child. The child who declined to respond under all three conditions was from the low-SES group who was receiving speech-language services from the school speech-language pathologist. Curiously, she participated well during the first testing session with the examiner, and she engaged verbally with the examiner during the introductory story and

the discussion about the pictures before the picture-only story generation condition, looking closely at the pictures, pointing to items and commenting on actions in the pictures. However, when prompted by the puppet to “Please tell me the story”, then asked "How does it start?" and "What happened in the story?”, the child still did not respond. These requests for a fully structured story may have been beyond her experience and capacity. More specific prompts, such as those used by Fazio, Naremore, and Connell (1996) (e.g., “What happened here?” and “What’s next?”) may have supported her sufficiently so she might have endeavored to attempt to tell a story. Fazio et al. worked with kindergarten-aged children from poverty and some with language impairment, and no child refused to tell a story with these more specific prompts. Also, the only times that the puppet was present was when the children were asked to tell their stories. This child may have been apprehensive about the rabbit puppet, inhibiting her from speaking. Furthermore, the written story models for the first pilot study had an MLU in words of 10.5, whereas the children’s stories in the story retell conditions in the pilot study only ranged between 4.8 to 6.11 for MLU in words and 5.5 to 6.86 for MLU in morphemes. The oral models may have been too lengthy, testing the children’s working memory as well as narrative skills.

The stories appeared to generally appeal to the children, but the tasks did not elicit narratives from all of the children consistently. Subsequently, changes were made to encourage maximum story telling from the child. The number and type of allowable prompts were increased. The puppet was changed from a rabbit puppet to a turtle puppet to provide a nonaggressive animal whose shell would be a convenient place to hide his ears and not “listen” to the adult voice telling the story. Also, the stories were rewritten

to decrease sentence length and to increase the presence of all story grammar and evaluative outcome measures (Appendix C). The resulting stories contained an MLU of words of 6.00 and the MLU in morphemes of 6.64, approximately the average for the children's narrative responses in the pilot project. Each story included exemplars of every story grammar unit and evaluative element to be assessed as well. Another change was the reduction of three presentation conditions to two. The story retell condition with pictures and the story retell conditions without pictures were maintained, and the story generation with one picture was deleted. This change was made because it more adequately addressed the revised experimental question of the study. Moreover, past studies of the predictive value of narratives have been found for story retelling and not story generation (Bishop & Edmundson, 1987; Fazio, Naremore, & Connell, 1996).

To evaluate these changes in the stories, a second pilot study was conducted and two additional participants were tested, one from a low-SES home and one from a mid-SES home, using the rewritten stories, the two story retell conditions, increased allowable prompts, and the turtle puppet. Both of the children participated fully for both story conditions and their stories were similar in length, as measured by MLUs in words and morphemes, to the previous participants in the first pilot study.

Research study. For the full research study, the three story episodes from *OOPS* (Mayer, 1977) used in the second pilot study were utilized, one as an introductory story to familiarize the children with the story-telling situation and further acquaint them with the examiner, and the other two in the experimental conditions of oral-only story retell and picture-supported story retell. The pictures and story used for familiarization was

also equivalent in terms of story grammar units, evaluative elements, and lexical complexity (Appendix C).

Task Administration

Prior to data collection, informed consent was procured from the parents. Each child was seen individually for two sessions in a quiet room. Testing was administered by this author. The sessions were scheduled within two weeks of each other. Assent for participation procedures were followed with each child prior to all sessions. The first session included the testing with the standardized measures, lasting about 20-30 minutes. If a child showed fatigue or requested a break during this session, testing was halted and continued in another sitting within a week. All expressive subtests were audio-recorded with a GE model 3-5027 portable recorder and cassette player with external microphone.

In the second session, an Olympus model VN-100 digital voice recorder was used to present the introductory and experimental story models to the children to insure consistent presentation. During oral presentations of the stories, the turtle puppet “hid” away with its head retracted due to its “shyness” so the puppet could not “hear” the adult version of the story. Narratives were then elicited from the child under the two different conditions of oral-only retell and oral retell with pictures. (See Appendix D for the directions for administration.) Every child received one version of each of the experimental stories under the two testing conditions. To control for potential story order presentation effects, both presentation conditions and stories were randomized across children. The full session was audio-recorded with a GE model 3-5027 portable recorder and cassette player with external microphone and lasted 15-20 minutes.

Oral-only retell condition. The child was instructed to listen carefully to a story that has no pictures and to remember as much as possible so it can be told to the turtle later. The episode was played for the child using the digital recording device. When the story was finished, the child was prompted to tell the story to the turtle. If the child stopped speaking, neutral prompts followed by more specific prompts were given (e.g., "and then…" followed by "what else happened?" if needed).

Oral retell with pictures condition. The child was instructed to listen carefully to a story while looking at the pictures, remembering as much as possible, so it can be told to the turtle later. A laminated folder with the four pictures depicting the story was laid in front of the child, and the episode was played for the child using the digital recording device. Pictures were pointed to during the appropriate time in the reading. When the story was finished, the child was prompted to tell the story to the turtle. If the child stopped speaking, neutral prompts followed by more specific prompts were given. During the child's retell, all four pictures remained for the child to reference.

Prompts. Prompts were allowed to encourage children to begin and to continue telling their stories (Appendix E). Narratives are like conversations in that they are created between two or more people. Relatively neutral subprompts, such as "okay", "uh-huh", and "oh", have been found to be effective in encouraging children to continue a narrative without the adult directing it (McCabe & Rollins, 1994). Their research found that no response by the adult may unintentionally signal the child to discontinue speaking, and excessive comments or evaluations of the child's story may result in shortened responses. Prompts have been used by researchers eliciting story retelling with preschool children (Bishop & Edmundson, 1987; Paul & Smith, 1993). Both Bishop and

Edmundson (1987) and Paul and Smith (1993) used the Bus Story Language Test (Renfrew, 1969, 1977), which prompts the child to begin the story by saying, "Now you tell me the story. Once upon a time there was a …." Generous prompts, such as "and then…", "what happened?" and even direct questions about the pictures are allowed with this test. No child refused to participate in the story retelling. Furthermore, in Fazio et al.'s (1996) study, if a child did not independently begin to tell the story, the examiner would point to the first picture and ask, "What happened here?" If more prompting was needed during the retelling, the examiner would ask, "What's next?" or "And then what happened?" No child refused to participate with this level of support.

After the story was told to the child, the examiner prompted, "Now it's your turn to tell the story to Yertle (the turtle puppet). In this story…." If the child made comments which were off-topic, such as comments and questions about the puppet or started an original story, initial prompts, such as "how did this story start?" and "what happened in this story?" were used to focus the child's attention on task. In the oral-retell with pictures condition, the puppet would point to the first picture. If the child started telling the story then stopped speaking, neutral prompts such as "What's next", "Then what happened", and "Tell me more" were given. A maximum of four prompts were allowed per story retell after the child began telling a story. Prompts were limited to four to strike a balance between providing some encouragement for the children to continue speaking while, at the same time, trying to observe the true performance of the child. The examiner did not look at or point to the pictures in the oral-retell with pictures condition after the story started but only used verbal prompts, consistent with the oral-retell condition. When the child did not respond after prompts, stopped talking after

telling an end event, made a statement which was about a previous story, or indicated verbally that their story was finished, the examiner asked, “Do you have anything more to tell me about this story?” If the child responded affirmatively, the child was allowed an opportunity to give additional information, but no further continuation prompts were provided. A negative response, such as saying “no”, shaking of the head, or an off-topic statement, was required of the child to allow the child to determine the end of the retell and so the examiner would not unintentionally terminate the child’s contribution prematurely. Due to reduced intelligibility of some children with speech sound disorders, requests for clarification of what the child said or repetitions of a child’s utterance to later aid in transcription were allowed but not counted as prompts. The type and number of prompts used in each retelling was tallied from the audio-recordings of each session. A mixed design ANOVA analysis of the number of prompts provided to the children revealed no significant ($p<.05$) main effects for group membership, elicitation condition, or an interaction between these two factors (Table 2). In other words, children in both groups were provided with similar numbers of prompts in both experimental presentations. The children’s stories should not differ then due to the availability of additional prompts.

Table 2

Prompts by Group and Elicitation Condition

	Oral only condition		Picture supported condition	
	Mean	SD	Mean	SD
Low SES group	1.64	1.162	1.57	1.230
Mid SES group	1.46	.999	1.11	.916

Measures

Three types of measures were used to analyze the children's stories. All measures have been adapted from previous studies of children's narratives. Measures of story grammar units and evaluative elements are considered measures of macrostructure, which examine the narrative in terms the hierarchical organization. Measures of lexical productivity are considered measures of microstructure, which examine the narrative in terms of internal linguistic structures (Justice et al., 2006). These two types of analyses represent two distinct variables of narrative competence which the story-teller uses to construct a story (Liles et al., 1995). Assessment of both macrostructure and microstructure are recommended when evaluating an individual's narrative performance (Hughes, McGillivray, & Schmidek, 1997; Paul, 2001; Manhardt & Rescorla, 2002). Appendix H shows examples of two story retells, one of each experimental story and from each SES group, including coding of story grammar units and evaluative elements.

Transcription and coding reliability. The children's audio-taped stories were transcribed using a word processing program, checked for reliability, and converted to

transcripts following the conventions of the Systematic Analysis of Language Transcripts program (SALT, Miller & Chapman, 2006). Exophoric comments (e.g., "My Mom reads to me"; "I'm done now") were not included in the scoring. The stories were then coded for story grammar units following a rubric modified from Stein and Glenn (1979; Appendix F) and for evaluative comments following the scoring rubric adapted from Bamberg and Damrad-Frye (1991; Appendix G). Stories were also coded and analyzed for lexical productivity using SALT (Miller & Chapman, 2006). Stories were transcribed and coded by the author. Twenty percent of the children's retells (7 oral retells/low-SES, 7 picture retells/low-SES, 7 oral retells/mid-SES, 7 picture retells, mid-SES) were transcribed separately by a student majoring in speech-language pathology and checked for agreement. Agreement for transcription was 95.115%. The transcriptions were then coded for story grammar units and evaluative elements. Twenty percent of the transcriptions (7 oral retells/low-SES, 7 picture retells/low-SES, 7 oral retells/mid-SES, 7 picture retells, mid-SES) were also coded by a doctoral student in speech-language pathology to determine reliability. Overall agreement for story grammar units was 93.57%, and overall agreement for evaluative elements was 94.64%. All lexical analyses were conducted by this author using SALT (Miller & Chapman, 2006).

Measure of story grammar units. Coding for story grammar units were based on Stein and Glenn (1979) with modifications (Appendix F). Consistent with the modification made by Schneider (1996), scoring for "setting" was further separated into first character, second character, and locations, and the reactions of both characters, not just the first, were counted. Stories were coded for the presence of each story grammar unit and the number of story grammar units included per episode. Story units were

counted as present even if it differed from the story (e.g., "He yelled at the hippo to come back" instead of "He said his oranges were ruined").

Measure of evaluative information. Bamberg & Damrad-Frye's (1990) system of identifying the six most frequent evaluative devices was chosen for the current research to increase the straightforwardness of scoring and enhance reliability while still providing a sensitive measure of the incidence of the most common evaluative devices used by children around this age group (Appendix G). Stories were coded for the presence and number of evaluative remarks included per episode. Evaluative remarks were counted as present even if it differed from the story (e.g., "The hippo was scared" instead of "She was embarrassed").

Measures of lexical complexity. Each narrative was segmented into C-units for analysis. A C-unit is an independent main clause and its dependent constituents; it cannot be divided further without a loss to the essential meaning of the utterance (Miller & Chapman, 2006). Transcript analysis excluded all exophoric comments (e.g., I don't know, OK, I like oranges, I like your turtle, etc.) and unintelligible utterances. Measures of lexical productivity (word output) and lexical diversity have been shown to be sensitive factors of productivity in narratives, revealing differences among children of different age groups and among children with and without language impairments (Justice et al., 2006; Schneider, 2003). The measures of lexical complexity were represented by the total number of utterances in C-units (TNU), the total number of words (TNW), mean length of utterance in words (MLU-W), and mean length of utterance in morphemes (MLU-M), and the number of different word roots (NDW). All five of these measurements were generated by SALT: Clinical V9 (Miller & Chapman, 2006) analysis.

Data Analysis

The data from this research were analyzed using descriptive measures and mixed design ANOVAs with two groups of subjects (between-groups variables) and two story presentation condition (within-groups variables). Dependent variables were the number of story grammar units and the number of evaluative elements as measures of macrostructure, and the number of C-units, the total number of words, the number of different word roots, the MLU in words, and the MLU in morphemes as measures of microstructure. All significant overall F-values were followed with pairwise comparisons to identify the direction of differences between conditions. Effect sizes were calculated for significant results as well. The PASW Statistics 18, Release Version 18.0.0 (D3 SPSS, Inc., 2009) program was used for all analyses.

Predictions

Between groups. It was predicted that the children from low-SES homes would produce fewer story grammar units, evaluative elements, and less lexical complexity compared to children from the mid-SES homes. In the model of working memory, verbal working memory (VWM) works bidirectionally with language knowledge in long-term memory (LTM) (Montgomery, 2002). As a result, the children with typically-developing language from low-SES homes may be constrained in their verbal working memory, their language learning, and their comprehension because their poor knowledge base in LTM does not support the efficient processing of the verbal input. In other words, prose with unfamiliar vocabulary, grammar, or situations may result in weak or incomplete storage in VWM. This may result in a majority of attentional resources being allocated to less familiar aspects of the content and fewer resources available to retain and process the

narrative as a whole, story grammar elements, sequential information, and evaluative information in the episodic buffer. This loss of language relative to reduced exposure to language input in the environment is consistent with the findings of Hart and Risley (1995).

This prediction also was based on the finding that the personal narratives of preschool children from low-SES homes were less well-organized and included fewer complex linguistic markers compared to their same-aged peers from mid-SES homes (Peterson, 1994).

Within groups. Pictures may assist working memory when retelling a story for children who are typically developing. They may reduce processing demands and memory load for both story information and story structure, thus aiding the episodic buffer. Thus, it was predicted that children from both groups will produce more story grammar units, evaluative elements, C-units, total number of words, number of different words, MLU in words, and MLU in morphemes in the retell condition with pictures compared to the retell condition without pictures.

Results

The research questions asked in the study were: Do the narratives of preschool children differ depending upon the type of story retell condition (i.e., story retells with picture support and story retells without picture support) used to elicit the child's story?; and Do the narrative skills (i.e., number of story grammar units, the amount of evaluative information, and the lexical complexity) of preschool children differ depending on low and middle socioeconomic status? To answer these questions, mixed design ANOVAs

were computed for the measures of story grammar units, evaluative information, and the lexical complexity, represented by the number of C-units, the total number of words, the number of different words, the MLU in words, and the MLU in morphemes, in the children's story retells. These will be reported separately. The partial eta squared (η_p^2) values are measures of the degree of association between the effect and the dependent variable and are estimates of the degree of their association in the sample (Ferguson, 2009). In addition, when the data for the outcome variables were screened for outliers, the data from one participant from the low-SES group presented as an outlier for story grammar units and evaluative elements in both elicitation conditions and for some of the lexical measures in both elicitation conditions as well, resembling more the data from the higher scoring participants from the mid-SES group. There was not an equivalent outlier from the mid-SES group, so no child's data were removed from that group. Z-scores were calculated for this child's data for story grammar units and evaluative elements in both elicitation conditions. The z-scores were all around three standard deviations above the mean for all four categories and not representative of the low-SES group. The three-sigma rule, which maintains that 99.7% of all values lie within three standard deviations of the mean for a normal distribution and an event which lies outside that range is improbable (Upton & Cook, 2008), was applied, the outlier was considered not representative of the low-SES group, and the data were removed. When this child's data were excluded, some of the results were appreciably affected. Therefore, the results for the complete data set will be presented first for each measure, followed by the results for the data set excluding the outlying data of the one participant.

Mixed design ANOVAs were computed as well for the individual measures of story grammar units and evaluative elements to probe the individual contributions of each to the overall significance of the gross measure. These reports will then be reported separately.

Story Grammar Units

With the complete data set, a significant main effect for group was not found for inclusion of story grammar units, F(1,54)=2.475, p=.121, η_p^2 =.044, d = 0.428. About the same number of story grammar units were used by the children in the low-SES group (M=3.232) as the children in the mid-SES group (M=3.964). There was a significant main effect for elicitation, F(1,54)=41.790, p=.000, η_p^2 =.436, d = 0.743, with the η_p^2 value indicating that approximately 43% of the variance in the model can be accounted for by the elicitation condition, and the d value indicating a large effect size. Children told stories with more story grammar units in the picture-supported condition (M=4.32) than in the oral-only condition (M=2.88). An interaction between group and elicitation was not found to be significant (Table 3).

Table 3

Proportion of Story Grammar Units by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	2.46	2.202	4.00	1.866	3.232
Mid SES group	3.29	2.034	4.64	1.569	3.964
Total Mean	2.88	2.141	4.32	1.738	

Without the outlying data, a significant main effect for group was found for inclusion of story grammar units, F(1,53)=24.590, p=.029, η_p^2 =.087, d = 0.617, with the η_p^2 value indicating that approximately 9% of the variance in the model can be accounted for by the elicitation condition, and the d value indicating a medium to large effect size. Fewer story grammar units were used by the children in the low-SES group (M=3.019) than by the children in the mid-SES group (M=3.964). There was a significant main effect for elicitation, F(1,53)=42.557, p=.000, η_p^2 =.445, d = 0.813, with the η_p^2 value indicating that approximately 45% of the variance in the model can be accounted for by the elicitation condition, and the d value indicating a large effect size. Children told stories with more story grammar units in the picture-supported condition (M=4.24) than in the oral-only condition (M=2.76). An interaction between group and elicitation was not found to be significant (Table 4).

Table 4

Proportion of Story Grammar Units by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	2.22	1.826	3.81	1.618	3.019
Mid SES group	3.29	2.034	4.64	1.569	3.964
Total Mean	2.76	1.990	4.24	1.633	

Evaluative Information

With the complete data set, a significant main effect for group was not found for the inclusion of evaluative information, F(1,54)=2.852, *p*=.097, η_p^2 =.050, *d* = 0.460. The number of evaluative elements were used by the children in the low-SES group (M=1.482) were not statistically different from the number used by the children in the mid-SES group (M=2.125). There was a significant main effect for elicitation, (F(1,54)=15.869, *p*=.000, η_p^2 =.227, *d* = 0.486, with the η_p^2 value indicating that approximately 23% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a medium effect size. Children told stories with statistically more evaluative elements in the picture-supported condition (M=2.20) than in the oral-only condition (M=1.41). An interaction between group and elicitation was not found to be significant (Table 5).

Table 5

Proportion of Evaluative Elements by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	1.00	1.466	1.96	1.621	1.482
Mid SES group	1.82	1.722	2.43	1.597	2.125
Total Mean	1.41	1.638	2.20	1.612	

Without the outlying data, a significant main effect for group was found for the inclusion of evaluative information, F(1,53)=5.996, p=.018, η_p^2 =.102, d = 0.673, with the η_p^2 value indicating that approximately 10% of the variance in the model can be accounted for by the elicitation condition, and the d value indicating a medium to large effect size. Fewer evaluative elements were included by the children in the low-SES group (M=1.296) than by the children in the mid-SES group (M=2.125). There was a significant main effect for elicitation, (F(1,53)=15.266, p=.000, η_p^2 =.224, d = 0.517, with the η_p^2 value indicating that approximately 23% of the variance in the model can be accounted for by the elicitation condition, and the d value indicating a medium effect size. Children told stories with statistically more evaluative elements in the picture-supported condition (M=2.11) than in the oral-only condition (M=1.33). An interaction between group and elicitation was not found to be significant (Table 6).

Table 6

Proportion of Evaluative Elements by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	0.81	1.111	1.78	1.311	1.296
Mid SES group	1.82	1.722	2.43	1.597	2.125
Total Mean	1.33	1.528	2.11	1.487	

C-Units

With the complete data set, a significant main effect for group was not found for the inclusion of C-units, F(1,54)=2.043, *p*=.159, η_p^2 =.036, *d* = .389. About the same number of C-units were used by the children in the low-SES group (M=4.464) as the children in the mid-SES group (M=5.304). There was a significant main effect for elicitation, F(1,54)=46.313, *p*=.000, η_p^2 =.462, *d* = 0.893, with the η_p^2 value indicating that approximately 46% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. Children told stories with more C-units in the picture-supported condition (M=6.02) than in the oral-only condition (M=3.75). An interaction between group and elicitation was not found to be significant (Table 7).

Table 7

Proportion of C-Units by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	3.18	2.212	5.75	2.238	4.464
Mid SES group	4.32	2.957	6.29	2.623	5.304
Total Mean	3.75	2.651	6.02	2.431	

Without the outlying data, a significant main effect for group was still not found for the inclusion of C-units, F(1,53)=2.922, *p*=.093, η_p^2 =.052, *d* = .470. About the same number of C-units were used by the children in the low-SES group (M=4.315) as the children in the mid-SES group (M=5.304). There was still a significant main effect for elicitation, F(1,53)=46.134, *p*=.000, η_p^2 =.465, *d* = 0.910, with the η_p^2 value indicating that approximately 47% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. Children told stories with more C-units in the picture-supported condition (M=5.96) than in the oral-only condition (M=3.67). An interaction between group and elicitation was not found to be significant (Table 8).

Table 8

Proportion of C-Units by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	3.00	2.038	5.63	2.186	4.315
Mid SES group	4.32	2.957	6.29	2.623	5.304
Total Mean	3.67	2.611	5.96	2.419	

Total Number of Words

With the complete data set, there was a significant main effect for group for the total number of words used, F(1,54)=6.829, *p*=.012, η_p^2 =.112, *d* = .711, with the η_p^2 value indicating that approximately 11% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a medium to large effect size. There were fewer total number of words in the stories of the children in the low-SES group (M=20.411) than in the stories of the children in the mid-SES group (M=29.839). There was a significant main effect for elicitation, F(1,54)=41.607, *p*=.000, η_p^2 =.435, *d* = 0.807, with the η_p^2 value indicating that approximately 43% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. Children told stories with a greater total number of words in the picture-supported condition (M=31.59) than in the oral-only condition (M=18.66). An interaction between group and elicitation was not found to be significant (Table 9).

Table 9

Proportion of the Total Number of Words by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	13.82	13.253	27.00	14.008	20.411
Mid SES group	23.50	17.135	36.18	16.986	29.839
Total Mean	18.66	15.943	31.59	16.106	

Without the outlying data, there was still a significant main effect for group for the total number of words used, F(1,53)=9.642, *p*=.003, η_p^2 =.154, *d* = .853, with the η_p^2 value indicating that approximately 15% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. There were fewer total number of words in the stories of the children in the low-SES group (M=19.148) than in the stories of the children in the mid-SES group (M=29.839). There was still a significant main effect for elicitation, F(1,53)=40.361, *p*=.000, η_p^2 =.432, *d* = 0.828, with the η_p^2 value indicating that approximately 43% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. Children told stories with a greater total number of words in the picture-supported condition (M=31.07) than in the oral-only condition (M=18.11). An interaction between group and elicitation was not found to be significant (Table 10).

Table 10

Proportion of the Total Number of Words by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	12,52	11.534	25.78	12.662	19.148
Mid SES group	23.50	17.135	36.18	16.986	29.839
Total Mean	18.11	15.542	31.07	15.780	

Number of Different Words

With the complete data set, there was a significant main effect for group for the number of different words used, F(1,54)=9.638, *p*=.003, η_p^2 =.151, *d* = 0.845, with the η_p^2 value indicating that approximately 15% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. There were fewer number of different words in the stories of the children in the low-SES group (M=14.286) than in the stories of the children in the mid-SES group (M=20.589). There was a significant main effect for elicitation, F(1,54)=41.480, *p*=.000, η_p^2 =.435, *d* = 0.434, with the η_p^2 value indicating that approximately 41% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a small to medium effect size. Children told stories with a greater number of different words in the picture-supported condition (M=21.14) than in the oral-only condition (M=13.73). An interaction between group and elicitation was not found to be significant (Table 11).

Table 11

Proportion of the Number of Different Words by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	10.39	8.288	18.18	8.534	14.286
Mid SES group	17.07	10.066	24.11	8.075	20.589
Total Mean	13.73	9.737	21.14	8.673	

Without the outlying data, there was still a significant main effect for group for the number of different words used, F(1,53)=13.632, *p*=.001, η_p^2 =.205, *d* = 1.014, with the η_p^2 value indicating that approximately 21% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. There were fewer number of different words in the stories of the children in the low-SES group (M=13.519) than in the stories of the children in the mid-SES group (M=20.589). There was still a significant main effect for elicitation, F(1,53)=39.581, *p*=.000, η_p^2 =.428, *d* = 0.819, with the η_p^2 value indicating that approximately 40% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. Children told stories with a greater number of different words in the picture-supported condition (M=20.80) than in the oral-only condition (M=13.44). An interaction between group and elicitation was not found to be significant (Table 12).

Table 12

Proportion of the Number of Different Words by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	9.67	7.483	17.37	7.313	13.519
Mid SES group	17.07	10.066	24.11	8.075	20.589
Total Mean	13.44	9.570	20.80	8.361	

MLU in Words

With the complete data set, there was a significant main effect for group for MLU in words, F(1,54)=20.488, p=.000, η_p^2 =.275, d = 1.232, with the η_p^2 value indicating that approximately 27% of the variance in the model can be accounted for by the elicitation condition, and the d value indicating a large effect size. The stories told by children in the low-SES group had a lower MLU in words (M=4.207) than the children in the mid-SES group (M=5.469). There was a significant main effect for elicitation, F(1,54)=7.292, p=.009, η_p^2 =.119, d = 0.399, with the η_p^2 value indicating that approximately 12% of the variance in the model can be accounted for by the elicitation condition, and the d value indicating a small to medium effect size. Children told stories with greater MLU in words in the picture-supported condition (M=5.127) than in the oral-only condition (M=4.548). An interaction between group and elicitation was not found to be significant (Table 13).

Table 13

Proportion of MLU in Words by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	3.874	1.333	4.540	1.272	4.207
Mid SES group	5.223	1.617	5.715	.958	5.469
Total Mean	4.548	1.618	5.127	1.263	

MLU in Words

Without the outlying data, there was still a significant main effect for group for MLU in words, F(1,53)=25.882, *p*=.000, η_p^2 =.328, *d* = 1.398, with the η_p^2 value indicating that approximately 32% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a large effect size. The stories told by children in the low-SES group had a lower MLU in words (M=4.111) than the children in the mid-SES group (M=5.469). There was still a significant main effect for elicitation, F(1,53)=6.761, *p*=.012, η_p^2 =.113, *d* = 0.393, with the η_p^2 value indicating that approximately 11% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a small to medium effect size. Children told stories with greater MLU in words in the picture-supported condition (M=5.085) than in the oral-only condition (M=4.520). An interaction between group and elicitation was not found to be significant (Table 14).

Table 14

Proportion of MLU in Words by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	3.790	1.282	4.433	1.160	4.111
Mid SES group	5.223	1.617	5.715	.958	5.469
Total Mean	4.520	1.619	5.085	1.235	

MLU in Morphemes

With the complete data set, there was a significant main effect for group for MLU in morphemes, F(1,54)=21.467, *p*=.000, η_p^2 =.284, *d* = 1.261, with the η_p^2 value indicating that approximately 21% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a medium to large effect size. The stories told by children in the low-SES group had a lower MLU in morphemes (M=4.664) than the children in the mid-SES group (M=6.048). There was a significant main effect for elicitation, F(1,54)=4.980, *p*=.030, η_p^2 =.084, *d* = 0.344, with the η_p^2 value indicating that approximately 8% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a small to medium effect size. Children told stories with greater MLU in morphemes in the picture-supported condition (M=5.631) than in the oral-only condition (M=5.082). An interaction between group and elicitation was not found to be significant (Table 15).

Table 15

Proportion of MLU in Morphemes by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	4.365	1.501	4.963	1.285	4.664
Mid SES group	5.799	1.819	6.298	1.083	6.048
Total Mean	5.082	1.804	5.631	1.357	

Without the outlying data, there was still a significant main effect for group for MLU in morphemes, F(1,53)=24.423, *p*=.000, η_p^2 =.315, *d* = 1.358, with the η_p^2 value indicating that approximately 32% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a medium to large effect size. The stories told by children in the low-SES group had a lower MLU in morphemes (M=4.590) than the children in the mid-SES group (M=6.048). There was still a significant main effect for elicitation, F(1,53)=4.990, *p*=.030, η_p^2 =.086, *d* = 0.349, with the η_p^2 value indicating that approximately 9% of the variance in the model can be accounted for by the elicitation condition, and the *d* value indicating a small to medium effect size. Children told stories with greater MLU in morphemes in the picture-supported condition (M=5.612) than in the oral-only condition (M=5.054). An interaction between group and elicitation was not found to be significant (Table 16).

Table 16

Proportion of MLU in Morphemes by Group and Elicitation Condition

	Oral-only elicitation condition		Picture+oral elicitation condition		Total both Elicitation conditions
	Mean	SD	Mean	SD	Mean
Low SES group	4.281	1.461	4.900	1.264	4.590
Mid SES group	5.799	1.819	6.298	1.083	6.048
Total Mean	5.054	1.808	5.612	1.362	

Summary of Results for Primary Measures

To summarize these findings, when examining the results from the complete data set, differences were found between preschoolers from low and middle socioeconomic homes in their production of story grammar units, evaluative information, and lexical complexity in story retelling with pictures compared to story retelling without pictures. The children from both groups retold stories with significantly more story grammar units and more evaluative elements and with greater lexical complexity when picture supports were provided along with the oral story model. Children from the mid-SES group retold stories which were more lexically complex than children from the low-SES group; however, their stories did not differ significantly in the number of story grammar units or evaluative elements which were included, nor in the one lexical measure of C-units. Also, no interaction between group membership and elicitation condition was found.

Important changes were found when examining the results without the outlying data of the one participant from the low-SES group. Differences continued to be noted between preschoolers from low and middle socioeconomic homes in their production of

story grammar units, evaluative information, and lexical complexity in story retelling as a result of the elicitation method used to elicit their stories. Pictures continued to play a vital role in supporting more complete and lexically complex story retells than with an oral model alone. And as before, no interaction between group membership and elicitation condition was found. However, now the stories of the children differed in their inclusion of story grammar units and evaluative elements based on group membership as well as lexical measures of total number of words, number of different words, and MLU in both words and morphemes. The children from the mid-SES homes told stories which included a higher number of story grammar units and evaluative elements as well as lexically complexity than the children from the low-SES homes. The only measure which continued not to be a significant discriminator of group membership was the lexical measure of C-units. Because the outlying data resembles more the data from higher scoring children from the mid-SES group and is appreciably higher (z-scores for story grammar units and evaluative elements all around +3 SD) than peers in the low-SES group, the results from these analyses are likely more representative than with the inclusion of the data from this child and will be used in the discussion of the results.

Analyses of Individual Measures of Story Grammar Units and Evaluative Elements

Analyses of the individual measurements within the factors of story grammar units and evaluative elements further revealed which measures were most sensitive to differences between elicitation conditions. Results for the inclusion of individual story grammar units are reported first, followed by results for individual evaluative elements.

Results for individual story grammar units. When examining the complete data set, the individual measure of initiating event was found to be the only significant

discriminator for group membership, with a medium effect size noted, with advantage for the children in the mid-SES group. For elicitation condition, inclusion of the second character, the initiating event, the attempt, the consequence of the action, and the reaction of the second character were found to be significant discriminators, with small to medium effects sizes noted for inclusion of the second character, initiating event, and consequence of the action, and with medium to large effect sizes noted for inclusion of the attempt and the reaction of the second character. All five of these story grammar units were included in the picture-supported condition more often than in the oral-only condition. These categories were also found to be the ones most included by the children in their stories. Inclusion of the main character, location, internal response of the main character, plan, and reaction of the main character were not found to be significant discriminators for elicitation condition. A significant interaction between group membership and elicitation condition was noted only for the category of inclusion of the main character, $F(1,54)=6.968$, $p=.011$, $\eta_p^2=.114$, $d = 0.718$, with the d value indicating a medium to large effect size. Children in the low-SES group included the main character more often in the oral-only condition, whereas the children in the mid-SES group included the main character more often in the picture supported condition (Table 17 & 18).

When the data set without the outlying data is examined, the individual measure of location as well as initiating event is found to be a significant measure of group membership, with both measures exhibiting a medium to large effect size, with advantage for the children in the mid-SES group. The same discriminators are found for elicitation condition, and the interaction for main character remains, $F(1,53)=6.962$, $p=.011$, $\eta_p^2=.000$, $d = 0.726$ (Tables 19 & 20).

Table 17

Number and Mean Proportion of Children Who Produced Story Grammar Units in the Complete Data Set

	Low-SES Group						Mid-SES Group						Group Main Effects					
	Oral retell			Picture retell			Oral retell			Picture retell			Low-SES	Mid-SES				
	No.	M	SD	No.	M	SD	No.	M	SD	No.	M	SD	M	M	F(1,54)	*p*	η_p^2	*d*
Main character	9	.357	.488	5	.214	.418	6	.214	.418	10	.357	.488	.286	.286	0.000	1.00	.000	.000
Secondary character	5	.185	.340	13	.444	.506	10	.393	.497	14	.500	.509	.315	.446	1.630	.207	.030	.351
Location	2	.071	.262	0	.000	.000	4	.143	.356	3	.107	.315	.036	.125	2.647	.110	.047	.443
Initiating event	4	.179	.390	13	.464	.508	11	.429	.504	16	.571	.504	.321	.500	3.947	.052*	.068	.541
Internal response	2	.107	.315	7	.250	.441	6	.250	.441	6	.214	.419	.179	.232	0.371	.545	.007	.166
Plan	2	.107	.315	8	.286	.460	7	.286	.460	10	.357	.488	.196	.321	2.473	.122	.044	.428
Attempt	4	.143	.356	11	.393	.497	3	.107	.315	15	.536	.508	.268	.321	.371	.545	.007	.166
Consequence of action	19	.714	.460	27	.964	.189	18	.679	.476	21	.750	.441	.839	.714	2.254	.139	.040	.407
Reaction second character	7	.256	.460	16	.571	.504	10	.393	.497	20	.714	.460	.429	.554	1.569	.216	.028	.341
Reaction main character	8	.286	.460	11	.393	.497	10	.393	.497	15	.536	.508	.339	.464	1.478	.229	.027	.331

Note: No. is the number of children who produced the story grammar unit. There were a total of 28 possible for each story grammar unit under each condition. An asterisk * indicates a significant result at the 0.05 level.

Table 18

Total Number and Mean Proportion of Children Who Produced Story Grammar Units in the Complete Data Set

	Elicitation Main Effects									
	Oral retell			Picture retell						
	No.	M	SD	No.	M	SD	F(1,54)	*p*	η_p^2	*d*
Main character	15	.286	.456	15	.286	.456	0.000	1.00	.000	.000
Secondary character	15	.291	.458	27	.473	.504	5.475	.023*	.094	.377
Location	6	.107	.312	3	.054	.227	1.272	.264	.023	.196
Initiating event	15	.304	.464	29	.518	.504	5.523	.022*	.093	.442
Internal response	8	.179	.386	13	.232	.426	0.700	.406	.013	.132
Plan	9	.196	.401	18	.321	.471	2.151	.148	.038	.286
Attempt	7	.125	.334	26	.464	.503	21.612	.000*	.286	.795
Consequence of action	37	.696	.464	48	.857	.353	5.170	.027*	.087	.390
Reaction second character	17	.339	.478	36	.643	.483	14.059	.000*	.207	.632
Reaction main character	18	.339	.478	26	.464	.503	2.350	.131	.042	.255

Notes: No. is the number of children who produced the story grammar unit. There were a total of 56 possible (SES groups combined) for each story grammar unit in each elicitation condition. An asterisk * indicates a significant result at the 0.05 level.

Table 19

Number and Mean Proportion of Children Who Produced Story Grammar Units in the Data Set without the Outlier

	Low-SES Group						Mid-SES Group						Group Main Effects					
	Oral retell			Picture retell			Oral retell			Picture retell			Low-SES	Mid-SES				
	No.	M	SD	No.	M	SD	No.	M	SD	No.	M	SD	M	M	F(1,53)	*p*	η_p^2	*d*
Main character	8	.333	.480	4	.185	.396	6	.214	.418	10	.357	.488	.259	.286	0.061	.806	.001	.068
Secondary character	4	.241	.418	12	.464	.508	10	.393	.497	14	.500	.509	.339	.446	1.059	.308	.019	.280
Location	1	.037	.192	0	.000	.000	4	.143	.356	3	.107	.315	.019	.125	4.023	.050*	.071	.551
Initiating event	3	.148	.362	12	.444	.506	11	.429	.504	16	.571	.504	.296	.500	5.370	.024*	.092	.637
Internal response	1	.074	.267	8	.222	.424	6	.250	.441	6	.214	.419	.148	.232	0.998	.322	.018	.274
Plan	2	.107	.315	7	.286	.460	7	.286	.460	10	.357	.488	.196	.321	2.473	.122	.044	.428
Attempt	3	.111	.320	10	.370	.492	3	.107	.315	15	.536	.508	.241	.321	0.896	.348	.017	.260
Consequence of action	18	.704	.465	26	.963	.192	18	.679	.476	21	.750	.441	.833	.714	1.980	.165	.091	.394
Reaction second character	6	.259	.447	15	.556	.506	10	.393	.497	20	.714	.460	.407	.554	2.165	.147	.039	.404
Reaction main character	7	.259	.447	10	.370	.492	10	.393	.497	15	.536	.508	.315	.464	2.159	.148	.039	.404

Note: No. is the number of children who produced the story grammar unit. There were a total of 27 possible for each story grammar unit under each condition for the low-SES group and a total of 28 possible for the mid-SES group. An asterisk * indicates a significant result at the 0.05 level.

Table 20

Total Number and Mean Proportion of Children Who Produced Story Grammar Units in the Data Set without the Outlier

	Elicitation Main Effects									
	Oral retell			Picture retell						
	No.	M	SD	No.	M	SD	F(1,53)	*p*	η_p^2	*d*
Main character	14	.273	.450	14	.273	.450	0.002	.962	.000	.000
Secondary character	18	.304	.464	24	.482	.504	5.378	.024*	.091	.368
Location	5	.091	.290	3	.055	.229	0.651	.424	.012	.139
Initiating event	14	.291	.458	28	.509	.505	5.607	.022*	.096	.453
Internal response	7	.164	.373	14	.218	.417	0.744	.392	.014	.138
Plan	9	.200	.404	17	.309	.466	1.652	.204	.030	.250
Attempt	6	.109	.315	25	.455	.503	21.485	.000*	.288	.824
Consequence of action	36	.691	.466	47	.855	.356	5.296	.025*	.031	.394
Reaction second character	16	.337	.474	35	.636	.485	14.085	.000*	.210	.645
Reaction main character	17	.327	.474	25	.455	.503	2.338	.132	.042	.261

Notes: No. is the number of children who produced the story grammar unit. There were a total of 55 possible (SES groups combined) for each story grammar unit in each elicitation condition. An asterisk * indicates a significant result at the 0.05 level.

Results for individual evaluative elements. When examining the complete data set, no individual measure of evaluative elements was found to be a significant discriminator for group membership. For elicitation condition, inclusion of the characters' direct and indirect speech was the only measure of evaluative elements found to be a significant discriminator, with a medium effect size noted. The characters' direct and indirect speech was included by the children in the picture-supported condition appreciably more often than in the oral-only condition. Inclusion of the characters' emotions, characters' cognition, hedges, negative qualifiers, and causal connectors, were not found to be significant discriminators for elicitation condition. The categories of characters' emotions, characters' cognition, and characters' direct and indirect speech were found to be the ones most included by the children in their stories. No significant interaction between group membership and elicitation condition was found (Tables 21 & 22).

When the data set without the outlying data was examined, significant discriminators of group membership were found for the individual measures of characters' cognition, showing a medium effect size, and direct and indirect speech, showing a large effect size, with advantage for the children in the mid-SES group for both measures. Direct and indirect speech continued to be a significant discriminator as well for elicitation condition. No significant interaction was found (Tables 23 & 24).

Table 21

Number and Mean Proportion of Children Who Produced Evaluative Elements by Group in the Complete Data Set

	Low-SES Group						Mid-SES Group						Group Main Effects					
	Oral retell			Picture retell			Oral retell			Picture retell			Low-SES	Mid-SES				
	No.	M	SD	No.	M	SD	No.	M	SD	No.	M	SD	M	M	F(1,54)	*p*	η_p^2	*d*
Character's emotion	13	.464	.637	21	.786	.738	18	.679	.772	23	.821	.863	.625	.750	0.589	.446	.011	.209
Character's cognition	7	.250	.799	12	.393	.629	14	.536	.999	16	.571	.742	.321	.554	1.915	.172	.034	.377
Indirect & direct speech	3	.107	.416	6	.286	.460	5	.179	.390	16	.571	.836	.196	.375	3.453	.069	.060	.506
Hedges	0	.000	.000	0	.000	.000	1	.036	.189	2	.071	.262	.000	.054	3.240	.077	.057	.490
Negative qualifiers	4	.143	.356	9	.321	.670	7	.250	.441	8	.321	548	.232	.286	0.364	.549	.007	.164
Causal connectors	1	.036	.189	5	.179	.390	2	.107	.315	4	.143	.448	.107	.125	0.069	.794	.001	.071

Note: No. is the number of children who produced the evaluative element. There were a total of 27 possible for each evaluative element under each condition for the low-SES group and a total of 28 possible for the mid-SES group.

An asterisk * indicates a significant result at the 0.05 level.

Table 22

Total Number and Mean Proportion of Children Who Produced Evaluative Elements in the Complete Data Set

	Elicitation Main Effects									
	Oral retell			Picture retell						
	No.	M	SD	No.	M	SD	F(1,54)	*p*	η_p^2	*d*
Character's emotion	31	.571	.710	44	.804	.796	3.743	.058	.065	.308
Character's cognition	21	.393	.908	28	.484	.687	0.443	.508	.008	.111
Indirect & direct speech	8	.143	.401	22	.429	.634	6.365	.015*	.105	.510
Hedges	1	.018	.134	2	.036	.189	0.325	.571	.006	.109
Negative qualifiers	11	.196	.401	17	.321	.606	1.391	.243	.025	.243
Causal connectors	3	.071	.260	9	.161	.417	1.945	.169	.035	.257

Notes: No. is the number of children who produced the evaluative element. There were a total of 55 possible (SES groups combined) for each evaluative element in each elicitation condition. An asterisk * indicates a significant result at the 0.05 level.

Table 23

Number and Mean Proportion of Children Who Produced Evaluative Elements by Group in the Data Set without the Outlier

	Low-SES Group						Mid-SES Group						Group Main Effects					
	Oral retell			Picture retell			Oral retell			Picture retell			Low-SES	Mid-SES				
	No.	M	SD	No.	M	SD	No.	M	SD	No.	M	SD	M	M	F(1,53)	*p*	η_p^2	*d*
Character's emotion	11	.407	.572	19	.741	.712	18	.679	.772	23	.821	.863	.574	.750	1.246	.269	.023	.307
Character's cognition	4	.148	.602	10	.333	.555	14	.536	.999	16	.571	.742	.241	.554	4.359	.042*	.076	.574
Indirect & direct speech	3	.111	.424	5	.259	.447	5	.179	.390	16	.571	.836	.185	.375	33.197	.000*	.385	1.583
Hedges	0	.000	.000	0	.000	.000	1	.036	.189	2	.071	.262	.000	.054	3.122	.083	.056	.485
Negative qualifiers	4	.148	.362	8	.296	.669	7	.250	.441	8	.321	548	.222	.286	0.499	.483	.009	.194
Causal connectors	0	.000	.000	4	.148	.362	2	.107	.315	4	.143	.448	.074	.125	0.709	.404	.013	.231

Note: No. is the number of children who produced the evaluative element. There were a total of 28 possible for each evaluative element in each elicitation condition. An asterisk * indicates a significant result at the 0.05 level.

Table 24

Total Number and Mean Proportion of Children Who Produced Evaluative Elements in the Data Set without the Outlier

	Elicitation Main Effects									
	Oral retell			Picture retell						
	No.	M	SD	No.	M	SD	F(1,53)	*p*	η_p^2	*d*
Character's emotion	29	.546	.689	42	.782	.786	3.804	.056	.067	.320
Character's cognition	18	.346	.844	26	.455	.662	0.670	.417	.012	.144
Indirect & direct speech	8	.143	.401	21	.429	.634	6.365	.015*	.105	.510
Hedges	1	.018	.134	2	.036	.189	0.313	.578	.006	.111
Negative qualifiers	11	.200	.404	16	.309	.605	1.056	.309	.020	.212
Causal connectors	2	.055	.229	8	.146	.405	1.991	.164	.036	.277

Notes: No. is the number of children who produced the evaluative element. There were a total of 56 possible (SES groups combined) for each evaluative element in each elicitation

Discussion

A child's ability to retell a story in kindergarten has been demonstrated previously to be one of the best predictors of his or her later academic success. This research shows that preschool children from low socioeconomic homes are less able to retell stories compared to their peers from middle socioeconomic homes, demonstrating an evident disparity of skills at a younger age, which suggests that this predictive capacity may be evident even before kindergarten. As a result, children from low-SES homes may be less successful in learning to read and perform less satisfactorily throughout their school years unless early language enrichment is provided. Prior to the current study, other research had focused on singular measurements of narrative skills, such as only story grammar units (Schneider & Dubé, 2005), evaluative elements (Bamberg & Damrad-Frye, 1991), or lexical measures such as referents and sentence cohesiveness (Peterson, 1993). This investigation has provided data on multiple literary and lexical measures to develop a more complete overview of the impact of presentation condition and socioeconomic status on the story retells of preschool children. With this more complete understanding of the effects of presentation and the consequences of socioeconomic influences, the critical needs of children who are at risk for delays in narrative skills can be more fully understood and instruction can be planned.

The story retells of children from low-SES homes appear to reflect their overall lower language skills as compared with their peers from mid-SES homes in both the micro-structural and the macro-structural measures of story productivity. These results reflect the reduced vocabulary, grammar, and narrative skills of the children in the low-SES homes, who have been documented to be at-risk for language delay due to factors

within their socioeconomic status (Hart & Risley, 1995, 1999; Hoff, 2003; Roseberry-McKibben, 2008). SES differences which are seen in preschoolers' personal narratives (Peterson, 1994) are also found here in their fictional story retells. The lack of significant findings for the number of C-units in the children's stories suggests that the children are all using equivalent numbers of utterances to tell their stories, but the utterances of the children from low-SES homes include less new story information and evaluation and have reduced vocabulary and grammatical complexity as compared with the utterances of the children from mid-SES homes. To support the future academic success for the children from low-SES homes, these language skills, including narrative skills, need to be improved with timely instruction.

To further probe the impact of the lower language skills of the children from the low-SES group on their story retells, analyses were also computed with mixed design ANOVAs including the children's core language scores on the CELF-P-2 (Wiig, Secord, Semel, 2004) as a covariate to control for the effects of language ability. All within-group contrasts for elicitation condition continued to be significant. However, significant between-group effects as a result of SES for the covariate of language scores were found for some of the measures of story elements. The covariate of language skills was found to have a significant relationship to the children's inclusion of story grammar units, $F(2,53) = 7.534$, $p = .008$, $\eta_p^2 = .127$, $d = 0.569$, total number of words, $F(2,53) = 4.961$, $p = .030$, $\eta_p^2 = .087$, $d = 0{,}374$, number of different words, $F(2,53) = 7.230$, $p = .010$, $\eta_p^2 = .122$, $d = 0.546$, MLU in words, $F(2,53) = 9.256$, $p = .004$, $\eta_p^2 = .151$, $d = 0.699$, and MLU in morphemes, $F(2,53) = 7.980$, $p = .007$, $\eta_p^2 = .133$, $d = 0.602$. Significant between-group relationships for SES were not found between core language scores and the

measures of evaluative elements, F(2,53) = 3.333, *p*=.074, η_p^2 =.060, *d* = 0.252, and the number of C-units, F(2,53) = 3.311, *p*=.075, η_p^2 =.060, *d* = 0.250. The lack of a significant result for the measure of evaluative elements may be because of the cognitive development stage of the preschool children, who may be just beginning to make sense of the internal motivations of others to be able to report them (Singer & Revenson, 1997). The lack of significance for the number of C-units may be a reflection that all of the children regardless of language skills share the same motivations and desires to tell their stories. Also, after controlling for the effect of the children's language skills as measured by the core language scores, differences between SES groups were no longer significant for the measures of story grammar units, F(2,53) = .606, *p*=.440, η_p^2 =.012, *d* = 0.046, evaluative elements, F(2,53) = 1.755, *p*=.191, η_p^2 =.033, *d* = 0.132, number of C-units, F(2,53) = .441, *p*=.510, η_p^2 =.008, *d* = 0.333, and total number of words, F(2,53) = 3.106, *p*=.084, η_p^2 =.056, *d* = 0.234. The low language skills of the children in the low-SES group helps to explain their ability to perform on the story retell tasks. However, even after controlling for the effect of the children's language skills, between-group differences of SES continued to be significant for the measures of the number of different words, F(2,53) = 4.591, *p*=.037, η_p^2 =.081, *d* = 0.347, MLU in words, F(2,53) = 11.216, *p*=.002, η_p^2 =.172, *d* = 0.847, and MLU in morphemes, F(2,53) = 10.673, *p*=.002, η_p^2 =.170, *d* = 0.806. The narrative task appears to impact the children's ability to perform beyond the limitations of language skills on these lexical measures.

The disparity on measures of story grammar units and evaluative elements as well as lexical measures had been predicted. The prediction was partly based on research findings from previous studies of the narrative skills of children which have found

differences based on SES. There are distinct differences between this study and those. This study accepted children across the language continuum for both socioeconomic groups, utilized a "naïve listener" in the form of a puppet, and controlled for the type and number of allowable prompts. For example, Bishop and Edmundson (1987) examined preschool and kindergarten children with language impairment, stories were retold to the examiner, and unlimited, direct prompts were allowed. Manhardt and Rescorla (2002) targeted older late talkers, stories were retold to the examiner, and numerous specific prompts were used in a "supported telling condition." In this study, the children in the low-SES group displayed mean language scores within normal limits even though they were significantly lower than the children from mid-SES homes. Future research could evaluate the story retells of children across the language spectrum in both SES strata to further explore differences due to SES and those due to language abilities. The prediction to find differences in the number of story grammar units and evaluative information was also based on other research into narratives and SES, which has had mixed results. In an examination of the personal narratives of preschool children, Peterson (1994) found that the children from low-SES homes were able to tell personal narratives which were as long and informationally dense as the children from mid-SES homes, but their narratives had fewer complex linguistic markers and were not as well sequenced. However, the narratives were told to the examiner and unlimited direct prompts were allowed. Extensive prompting was required for the children from low-SES homes to produce narratives of equivalent length and information. The current research controlled prompts in story retells which impacted the amount of information the children included in their stories as well as linguistic complexity. Shiro (2003) found SES

differences in the number of evaluative elements included by school-aged children in their personal narratives and story retells about videos that had just been watched. In the current study, SES differences were apparent for evaluative elements for younger groups of children for story retells, which adds to the previous knowledge base.

As predicted, the children produced longer and lexically more complex story retells under the picture-supported presentation condition than the oral-only condition. Overall, measures of story grammar units, evaluative elements, and lexical complexity were found to be significant indicators of within-group differences. School-aged children have been found to be better able to restructure their knowledge into personal narratives, scripts, and original stories because, for them, narrative structures are better developed and more easily accessible (Hudson & Shapiro, 1991). More structural sophistication has been noted in the personal narratives than the fictional narratives of preschool children, with some researchers suggesting that children at this age have a comparative advantage when reporting fact over fiction (Hudson & Shapiro, 1991; McCabe & Rollins, 1994). This previous research used different measurements of story structure and elicitation methodology. The current research suggests that, with the support of pictures and neutral prompts, preschool children are more ready and able to retell fictional stories than previously thought. The discrepancy between the performance in the oral-only condition and the picture-supported condition suggests that, for this younger population, though, the requisite narrative structures may not be as developed or as readily accessible in long term memory as to allow information in an oral story model to be placed within their mental representation and retold as well as in the older children. Pictures can assist in this process of mental retrieval and representation to assign story grammar and evaluative

elements within their stories and maintain them during retelling. Moreover, given the low inclusion of some story elements in the children's retells, this may be an early time in the development of fictional story telling skills for preschool children. Future studies could explore whether the preschool years would be an optimal time to provide models for learning story elements in the available language input of the child to increase school readiness.

The Impact of SES on Individual Story Grammar Units and Evaluative Elements

Although the overall significant main group effects for story grammar units and evaluative elements were an advantage for children from mid-SES homes, the in-depth analyses of the specific story grammar units and evaluative elements yielded few between group differences (see Table 19). For story grammar units, only two of the ten individual measures resulted in significant differences between the groups. More children from mid-SES homes included the location and the initiating event compared to the children from low-SES homes. To get credit for "location", children had to include the words "grocery store", "dish store" or just "store". One possible explanation for why location was included in the retells by fewer children in the low-SES group and so infrequently overall may be related to the saliency of the term within the model narrative. In this respect, the term saliency refers to how explicit a story element is featured in the text of the model story. In the model story about the hippo in the dish store, it is explicitly stated that "Tessie Hippo went to the dish store…" and so the information may not be readily available to the child unfamiliar with small specialty stores. In the other story, the location of grocery store is not explicitly stated. Instead, in the story it is stated that Mr. Rhino is the grocer and that Tessie Hippo ran into another store. The child would need to

infer the location of “grocery store” or “store” from the mention of a “grocer” and “another store”, which may be more difficult for the children in the low-SES group with reduced language skills to make this connection.

For the individual measure of initiating event, only 15% of the children in the low-SES group included the initiating event in the oral-only condition compared to 43% of the children in the mid-SES group (See Table 19). In contrast, higher percentages of children included initiating events in the picture-supported condition (44% of the low-SES group and 57% of the mid-SES group). These data suggest that it was the fewer number of children from the low-SES group in the oral-only condition that accounted for the difference. For the children in the low-SES group, the picture-support was especially beneficial in helping them remember to include the initiating event.

It is important to consider why other individual measures of story grammar were not significant contributors as well. Consequence of the action was mentioned most often by all of the children in both conditions. One explanation for why most children included consequence of the action was that it was the action climax. The central theme of both short stories was the calamity which happened. For the story about the dish store, shelves of glassware are broken. For the story about the grocery store, a large crate of oranges are ruined. The dialogue and the descriptions of the action in the oral stories add to the narrative saliency of this story element. When pictures of oranges rolling onto the ground and shelves of glassware crashing to the floor are added to the oral model for the picture-supported condition, the picture saliency augments the narrative saliency even more. This combination of picture and narrative saliency may be the reason why children from both groups and in both elicitation conditions included consequence of the action

more than any other story element. Consequence of action may be a good place to start for children who are just learning story grammar elements because this category was included by a number of children in both SES groups.

In contrast, the other categories of main character, secondary character, internal response, plan, and attempt were not included in retells by many children in either condition. Regarding main character, children included this story grammar unit in both conditions 27% of the time (See Table 20). This was also the only individual measure of a story element which revealed a statistical interaction, with the children in the low-SES group including the main character more often in the oral-only condition and the children in the mid-SES group including the main character more often in the picture-supported condition. For the main character, the child needed to provide a personal name, such as Tessie or Jesse, or an animal name, such as a hippo or elephant. The child was not given a point for inclusion of a character if only a pronoun was used to indicate the character. Points were not restricted for not remembering the exact name or correct type of animal because the emphasis for examination was story grammar units. These guidelines for scoring were followed because they had been used in similar research with older children (Schneider & Dubé, 2005), but these may have been too stringent for use with preschool children who, given the context of the situation, could be expected to use more exophoric references than anaphoric. If inclusion rates are adjusted to accept the inclusion of the main character by using pronouns as well as by a specific noun, a much different pattern of usage is found. When pronouns are accepted in coding, the children in the low-SES group now include main character 14 times in the oral-only condition and 23 times in the picture-supported condition, compared with 8 times and 4 times previously. The children

in the mid-SES group now include main character 19 times in the oral-only condition and 26 times in the picture-supported condition, compared with 13 and 16 times previously. Also, the interaction for this individual measure is no longer present when pronouns are accepted for coding. The exclusion of pronouns in the analysis limited the complete understanding of the presentation effects for main character. This same exclusion of pronouns for scoring also depressed scores for inclusion of the secondary character, who often was referred to with a pronoun but needed to be referred to by a given name, animal name, or occupational title for scoring. When pronouns are accepted in coding, the children in the low-SES group now include secondary character 7 times in the oral-only condition and 16 times in the picture-supported condition, compared with 4 times and 12 times previously. And the children in the mid-SES group now include secondary character 13 times in the oral-only condition and 21 times in the picture-supported condition, compared with 10 times and 14 times previously.

The low inclusion incidence for internal response, plan, and attempt may be an indication that preschool children in both SES groups were at the beginning stages of putting together the elements of a story episode. They are in the process of learning which elements are needed to relate a complete story to a listener. Certain elements have begun to be included because of they are the exciting focus or high point of the story, such as the consequence of the action and the reaction of the character most impacted by that action. Characters are mentioned, at least with pronouns, but not necessarily specified by name or role. Statements of the problem creating the reasons why the characters are doing actions (initiating events) and characters' reactions to these problems (plan and attempt) are beginning to emerge in the stories of some of the children. Indeed,

this may be a reflection of overall cognitive development at this age, with the children in the process of learning more about the internal thought processes and motivations of other people (Singer & Revenson, 1997). Instruction in these story grammar elements could support a child's cognitive development in this area.

Similar considerations need to be given to the SES group differences found for individual measures of evaluative elements (see Table 23). Only two out of the six evaluative elements, character's cognition and indirect and direct speech, were found to be significant discriminators. In the model stories, characters' cognition included the use of verbs such as "want", "decide", "watch", and "thought". Children from the low-SES group most often used early verbs such as "want" and "look", whereas children from the mid-SES group more often used the mental verbs "thought" and "watch" and added more of their own cognition verbs such as "liked" and "felt" to describe a characters' thoughts. This reflects the more advanced vocabulary and language skills of the children from the mid-SES homes compared to their peers from low-SES homes.

In contrast to the previous explanation for group differences for characters' cognition, the explanation for the group differences for indirect and direct speech may be due to print experiences rather than language skills. For credit in this category, a child had to include in their retold story either a character's spoken dialogue, such as "He yelled, you ruined my oranges!" or the words thought by a character internally, such as "She thought, that glass is so pretty!" The children from the low-SES group did not include the speech of characters very often in either condition; however, the children from the mid-SES group included speech much more often in the picture-supported condition, resulting in an overall group difference. The picture condition may have

resembled a storybook situation where literary language of dialogue was a familiar pattern. Children from mid-SES homes are read with more often than children from low-SES homes (Adams, 1990; Hart & Risley, 1995), and may recall a pattern of story sharing with literary language patterns to be followed.

No significant differences were found for the other four measures. Characters' emotions were mentioned often by both groups. Young children who are typically developing are aware of emotional states in others very early in development and are able to discuss emotions in themselves and others at the ages of three and four (Harris, 2010), so mention of emotions from both groups would be expected. However, children from the low-SES group more often used adjectives of "mad" and "sad", whereas children from the mid-SES group also used adjectives such as "upset", "angry", and "embarrassed", which reflects the group's more advanced vocabulary. Hedges, negative qualifiers, and causal connectors were mentioned infrequently by both groups. These elements were not as explicit as the other evaluative elements in the oral models of the stories, resulting in low narrative saliency. For example, in the story about the grocery store, the causal connection is made by the oranges rolling out and then the grocer stating that they were ruined. In the story about the dish store, Tessie knocks over the shelves and then the rabbit yells that his dishes are ruined. Preschool children may not be able to make these connections without causality being described overtly. To fully probe individual contributions of evaluative elements, stories in the future need to be written so that all elements are explicitly presented.

Overall, reasons for differences and lack of differences appear to be due to four factors. Picture saliency may have assisted the children in the low-SES group to include

initiating event more often in the picture-supported condition, resulting in a group difference. High narrative saliency may have assisted all of the children in supporting the inclusion of consequence of the action in their retells, but, conversely, low narrative saliency may have negatively impacted all children in their inclusion of hedges, causality, and negative qualifiers. Task effect may have assisted the children in the mid-SES group to include indirect and direct speech more often in the picture-supported condition due to greater print awareness, resulting in a group difference. Task effect may have also negatively impacted the overall inclusion of internal response, plan, and attempt because these elements may not be completely understood by the child at this age. Language effects may have assisted the children in the mid-SES group with their larger vocabularies to describe characters' cognition and emotions more precisely as well as more often. Language effects could also have depressed the overall scores for main character and second character because exophoric pronouns were used more often than specified nouns by all of the children. Language effects could also explain the overall low inclusion of location. Though a few of the children from the mid-SES group were assisted by higher language skills for this inclusion, resulting in the group difference, most of the children were not able to derive this information from the oral model.

The Impact of Elicitation Condition on Individual Story Grammar Units and Evaluative Elements

The overall significant main effects for elicitation condition for the dependent variables of story grammar units and evaluative elements indicated that pictures supported story retelling complexity. However, analysis of individual story grammar units and evaluative elements provided varied results (see Table 20). More children

included five of the ten story grammar units in the picture-supported story retell condition compared to the oral-only condition. These were: secondary character, initiating event, attempt, consequence of action, and reaction of second character. One explanation for why initiating event, attempt, and consequence of the action were included by more children in the picture-supported condition is that for each one of these story grammar units, there is a picture representing these features. In the pictures for the dish store story, the hippo is looking directly at a glass (initiating event), the hippo is bending over to pick up the dropped glass (attempt), and the shelves and broken dishes are on the floor (consequence of the action). In the pictures for the grocery store story, the hippo is looking at the oranges (initiating event), the hippo is taking out an orange from the box (attempt), and the oranges are scattered on the floor (consequence of the action). The child may not be able to remember all of these details in the oral-only condition, but the pictures could remind the child to include these story grammar units during retell. Furthermore, much of the increase in inclusion for initiating event is due to increased usage by the children in the low-SES group. One explanation for the uneven increase may be that parents in mid-SES homes ask their children questions of "why" something happened, and so the children from this group may have more experience with providing this information (Hart & Risley, 1995; Heath, 1982). Even though children from low-SES homes may not have as much practice in answering questions, when provided with a picture to model the cause for the action, they would be more able to include this content.

Similarly, the reaction of the second character may have been included by more children in the picture-supported condition because of the increased saliency of the second characters' reactions in the pictures. In the model story for the dish store, the

second characters' reactions are implied when the rabbit yells that his dishes are ruined. In the grocery store story, the grocer is upset and the hippo is embarrassed, which presents the reactions evenly. However, these reactions are noticeable in the pictures where the second characters have angry expressions and the rabbit is shaking a fist.

A similar explanation of picture saliency may also explain why more children included the secondary character in the picture-supported condition than in the oral-only condition. Although the secondary character did not appear more often in illustrations than the main character, it could be that the second character's facial expressions and other physical characteristics may have been more salient to the children compared to the main character's, who was illustrated with a somewhat neutral facial expression and meek characteristics. The second character might therefore now be considered the antagonist in the story and perhaps this made him more worthy of inclusion.

Main character, location, internal response, plan, and reaction of main character were not significantly different in the two conditions. A possible explanation for the lack of increased support in the picture condition for the inclusion of the location, internal response, and plan, is that the pictures did not facilitate their inclusion. For example, the backgrounds in the pictures are sparsely drawn, with no filled shelves of food behind the grocer or other shelves of houseware behind the store clerk. The simplicity of illustration helps to focus the stories on the characters' action but does not provide the child with explicit information about location. Location also may be a problem with many children due to a dated story schema in the pictures compared with the modern shopping areas of today. The stimuli were chosen because of their use in previous research with older children; however, in the future, new stories should be written to reflect more modern

lifestyles. Newer pictures should be drawn so that story grammar units are equally explicit. With respect to internal response, the pictures did not convey the main character's decision-making process. Regarding a plan, Tessie Hippo sees an orange or a glass, so she would want to buy it. There is no explicit picture to indicate this intention, such as holding money in an extended hand. The lack of visual reminders of these story grammar units in the illustrations was not beneficial.

Thus far the data indicate that differences seen at the individual measure level for story grammar in presentation condition are due to picture saliency. Does picture saliency also impact individual evaluative elements? The only individual evaluative element that was a significant discriminator was indirect and direct speech (see Table 24). The speech included by the children was more often the speech of the second character. One explanation for including the speech of the second character in the picture-supported condition than the oral-only condition would be related to the reason for mentioning the reaction of the second character more often. In the pictures of both stories, the secondary character is shown having a stern expression on his face. The mouths of the secondary characters in both stories are also open, indicating they are speaking. The mouth of the main character is only shown with the lips together. These differences in the pictures may prompt the children to include speech for the secondary character in the picture-supported condition.

Significant differences were not found for the other evaluative elements. Hedges and causal connectives were very infrequently occurring in both conditions suggesting that children at this age may not be developmentally ready to produce these. Also, these evaluative elements were not illustrated in the pictures, so no added support was available

to support their inclusion. Negative qualifiers were also produced infrequently; however, they were also not captured in the pictures. In contrast, character's cognition and character's emotions were the most often included evaluative elements by children. It was surprising that an advantage was not present for character's cognition and emotion in the picture-supported condition because these would be the type of visual cues amenable to pictures; however, children were just as likely to include these evaluate elements with pictures as they were without pictures. Perhaps if more complex cognition and emotions had been selected, differences may have been present.

Unlike the reasons for SES group differences, the elicitation differences appear to result more from the degree of picture saliency. In the picture-supported condition, all of the children include initiating event, attempt, consequence of the action, reactions of the secondary and main character, and the speech of the characters more often than in the oral-only condition due to the clarity and focus of these elements in the pictures. The seldom-mentioned elements of location, internal response, plan, hedges, negative qualifiers, and causal connectors need to be inferred from the oral model because clues are not emphasized in the illustrations. Even for characters' cognition and characters' emotions, which were mentioned more frequently by the children, pictures may have made a greater impact had more characters' expressions and body postures been illustrated with more contrast and vivacity. This indicates the importance of materials development. Assessment stories need to equally emphasize story elements or, to keep stories short, multiple stories might be necessary.

Theoretical Implications

It was predicted that children from low-SES homes would produce fewer story grammar units, evaluative elements, and less lexical complexity compared to children from the mid-SES homes as a result of the children from low-SES homes being constrained in their verbal working memory and comprehension. It was hypothesized that the poorer knowledge base in the long-term memory of the children for the low-SES group would not support the efficient processing of the verbal input. Weak or incomplete storage in working memory of potentially unfamiliar vocabulary and language was anticipated to result in a majority of attentional resources being allocated to less familiar aspects of the content and fewer resources available to retain and process the narrative as a whole, story grammar elements, sequential information, and evaluative information in the episodic buffer. Also, the lower lexical complexity in the stories of the children from low-SES homes is explained by their lower language skills, reflected in their CELF-P-2 scores. These predictions were confirmed; however, this study was not designed to specifically test the contributions of the working memory model or long-term memory, and thus, the relationship with the model should be interpreted with that in mind.

Regarding whether or not pictures would provide a benefit to the children when telling stories, it was predicted that pictures would assist the working memory of preschool children who were typically developing. This prediction was confirmed by both SES groups of children. Working memory may not be sufficiently mature for adequate storage and processing capacity for a child at this age to retain a story which is only orally presented and then to reconstruct it completely.

The use of pictures during story presentation clearly appears to reduce processing demands and memory load. Attentional resources in the central executive could be supported by information from the visuospatial sketchpad aiding in the "chunking" of information from the phonological loop into the episodic buffer. Also, with lower demands for storage space, more capacity could be allocated for traces of verbal and acoustic information to be rehearsed subvocally to maintain information longer in the phonological loop.

Limitations of the Present Study

The present study does have several limitations. One feature of this study is that the participants all live in a limited geographic area which is completely rural and predominantly come from European American homes. Fewer than five children were not European Americans, some of whom were biracial and lived with European American mothers. Both SES groups reflected the limited ethnic diversity of many rural Midwestern communities. The lack of diversity in this small rural setting contributes to internal validity, but caution should be used in generalizing results to children from urban or more culturally-diverse backgrounds. Due to the limitations of the sample population, more research should be directed to exploring potential differences between socioeconomic groups in other geographic areas and with greater multi-cultural diversity.

Additionally, this research used only two different stories to elicit retells. These stories, as well as the one used as an introductory story, were chosen due to their use in similar previous research with older children. The stories do not necessarily reflect contemporary lifestyles and may represent dated story schemas. Also, these stories do not place even emphasis on all story grammar units and evaluative elements. Future

studies should ascertain the viability of other stories, designed to explicitly illustrate all story elements and present more modern environments, possibly in easily obtainable, commercially available story books. Hudson and Shapiro (1991) proposed that children bring information from their own personal experiences to bear when constructing scripts of events and stories. The stories selected for the introductory story and the story retells in this research revolved around a theme of accidentally making a mess, a common theme that would be easy for children to relate to. Although the children may not have total experiential knowledge of the events or the characters, they might be able to employ some prior knowledge in their productions. Testing with a broader range of stories representing familiar daily events and more novel experiences could reveal differences in children's stories. The amount of familiarity and knowledge about character types, events, and themes may significantly impact the allocation of resource and capacity by the central executive in working memory and the ability of the child to create as complete of an account in the episodic buffer, impacting the length, complexity, and completeness of the story that the child is able to relate. In other words, if the information in the verbal model was beyond the child's personal experience, the child may not be able to fully comprehend or remember the information and then be able to recount it. The degree of influences from the dynamics of various story themes on personal experience, if any, should be investigated. Moreover, the use of characters which are not animal representations would be a multicultural consideration for some ethnic groups. A greater selection of viable story models should be provided for diverse student populations.

Lastly, the parent questionnaire used in this research requested a very limited amount of information about the child and family, resulting in some gross general

measures. Future research should utilize a more in-depth questionnaire to provide additional insight into socioeconomic factors which may impact children's stories. The research of Hart and Risley (1995, 1999) was conducted with families in stable homes for low, middle, and high SES groups. For this research, demographic information was not gathered on the child's birth order, number of siblings, age of parents, family stability (e.g., co-parenting, nuclear or blended family status), or child care arrangements (e.g., mother at home, grandparent, day care facility). Of course, a child's full language experience cannot be predicted through measures of socioeconomic status alone. Individual variations impact a child's available language input and support for practicing language. Hart and Risley (1999) found that the amount of language experiences provided to the child before the child is three years old accounts for the verbal-intellectual competence of the child rather than socioeconomic, educational, or ethnic factors. Factors such as family stability and child care arrangements could strongly impact the amount of language experiences the child has available and a child's language development (Peterson, 1994). For example, a child from a low-SES home may spend most of their waking hours being cared for by grandparents in a mid-SES bracket. Conversely, a child from a mid-SES home may be cared for in a low-SES homecare while parents work long shifts or two jobs to maintain mid-SES status. Also, requested financial information was only for current broad income brackets. With the economic instability during the last several years, families could have suffered through changes of circumstances that may have negatively impacted the families and which may confound group results based on socioeconomic factors. Future research could gather more demographic information, including more specific income information, recent changes in

finances, family dynamics (e.g., number of children, birth order, blended families), child care arrangements, as well as racial and ethnic information. Also, the parent questionnaire needs to incorporate queries to derive a picture of the customary amount of talk within the family as well as parental attitudes about talking with children (e.g., "children should be seen and not heard", "children are conversation partners from infancy"), to have a better concept of the amount of language exposure and practice support that the child has available. Variances within groups and between groups due to the differences within taciturn and talkative families could then be explored.

Directions for Future Research

The use of spoken stories with accompanying pictures appears to be an effective method for assessing the emerging fictional story retell skills of preschool children. The use of stories which are balanced in terms of story elements and lexical complexity would be useful to monitor progress of story skills development over time. Future research could develop several equivalent stories for this purpose as well as stories which are progressively more difficult for use with children as skills progress. Special attention should be given to the story content and accompanying pictures, with cultural considerations given for universal appeal and acceptance. A story retell takes a few minutes per child, making this assessment a quick and potentially effective tool for regular monitoring of developing story retelling skills. An on-line scoring system could streamline the amount of time needed to analyze the children's story retells so this method could be used for regular monitoring of skills development.

Story retelling could also provide a valuable context to practice new language skills in a curriculum-based program for children with language delays, providing a rich

opportunity for language intervention in a natural language environment. Intervention for language skills could be embedded within narrative instruction and practice time, thus maximizing efficacy. The targeted language skills could be readily applicable and usable in the child's classroom milieu, increasing the opportunity for generalization of newly learned language and literacy skills. Because the story retells are relatively quick to elicit and trial stories could be chosen based on language targets, the model stories could be potential sources to support a child's development of morphemes, vocabulary, and syntax, as well as story elements. Future research could determine the optimal, most efficacious usage of children's retells for assessment and intervention of emerging language skills.

Future investigations could also expand this research to include dynamic assessment. With the present study, we see a picture of what these children could do initially, some with a new task under two presentation conditions after a very brief introductory story. Dynamic assessment allows for educators to evaluate a student's ability to learn by teaching the student something and then observing the resultant learning (Sternberg & Grigorenko, 1998). The use of dynamic assessment would reveal the child's potential growth in performance after a few exposures to quality instruction of the target measures. This research would give further insight into the potential capabilities of preschool children to retell stories and into the amount of intervention which may be needed to prepare them for using narratives in the school years. The use of standardized, graduated prompts is an essential feature in the methodology of dynamic assessment to insure high fidelity and reliability. Information from dynamic assessment would reveal which prompts are most salient and supportive for optimal student learning, providing critical

information for planning both individual and group instruction. Furthermore, for assessment to have predictive validity in identifying a child's status and in monitoring a child's progress and for instruction to be effective, a program needs to be not only appealing to children, but it must also be readily and accurately utilizable by classroom teachers and aides after a reason training time. The application of the principles of dynamic assessment could provide these guidelines for a maximally effective program.

Given the importance of narrative skills for success in school (Griffin, Hemphill, Camp, & Wolf, 2004; Peterson, 1994; Snow & Dickenson, 1999) and the predictive quality of story retells in kindergarten for later academic success (Fazio, Naremore, & Connell, 1996; Feagans, 1982; McCabe, 1997; Peterson, 1994), the inclusion of an instructional program to teach story telling skills in a preschool curriculum for all children may well be advisable. The explicit and socially embedded instruction of narrative skills for preschool children in naturalistic environments has been demonstrated to facilitate the learning of critical emergent literacy skills and evaluative elements (Justice & Kaderavek, 2004; Kaderavek & Justice, 2004; Zevenbergen, Whitehurst, & Zevenbergen, 2003). Further research would be helpful to assist in the development of efficacious assessment and intervention materials for use in preschools to provide optimal learning experiences of overall narrative skills. Overt teaching of the academic aspects of narrative in preschool may help children be more successful in later grades. The present research suggests that a picture-story based program would be more effective than an oral-only approach with preschoolers to support working memory because children are able to include more story grammar units and evaluative elements, using more sentences, longer sentences, and more vocabulary with the assistance of pictures. A story retell

instructional program could be overlaid within a regular emergent literacy program. Future research could aid in the selection of storybooks and the writing of lesson plans. For example, a twelve-week plan could be designed, with one new story grammar element introduced and practiced each week for ten weeks, with all of these elements being reviewed and practiced during the last two weeks. Also, one evaluative element could be introduced and practiced every other week. Current and future research could ascertain an optimal progression to guide the teaching order of the story grammar units and evaluative elements from those which are most commonly used first to those least commonly used by children. For example, in regards to evaluative elements, character's cognition was noted most often by the participants, and this element could be reviewed during the first week because it may be the most salient for preschool aged children. Hedges, which were used least often, could be introduced at the end of the instructional cycle after practice has been provided with the other, more prominent elements. This instructional program would support curriculum objectives of literacy development and could possibly be used in intervention with early school-aged children as well. Given the importance of the home environment in the development of children's narrative skills (Dickenson & Tabors, 2002), supporting materials for the story and teaching point of the week in the preschool classroom could be sent home for parents to reinforce.

Lastly, a longitudinal study of children would be needed to observe story retell skills development over time, with and without instruction. Analyses could examine which story elements in retells, if any, are most predictive of academic success in later grades. Previous research has demonstrated the predictive nature of story retells for future academic success for kindergarten children. More research is needed to

demonstrate this predictive capacity in preschool children. Longitudinal research would also be necessary to provide information about the accuracy estimators of sensitivity and specificity for using picture-supported story retell assessments with diverse populations. Sensitivity refers to the proportion of children correctly identified as developing within normal limits for narrative development, and specificity refers to the proportion of children correctly identified as being at-risk for successful development of narrative skills. This information is crucial for identifying the preschool children who truly are in need of extra explicit exposure to literary elements and scaffolding when practicing their own stories.

Conclusions

Prior to this study, no research had been conducted which explored presentation effects on the story retells of preschool children measured by both literary elements and lexical elements and which investigated the potential impact of socioeconomic status on these story retells. The current research adds to the knowledge base on the influences of presentation condition and the effects of socioeconomic status on the story retells of preschool children. Preschoolers from middle socioeconomic homes were found to produce story retells with greater narrative and lexical complexity than preschoolers from low socioeconomic homes. These differences were found for measures of story structure, evaluative information, and lexical complexity, but not for the number of utterances the children were producing. This indicates that, although all the children were speaking about the same amount, the children from mid-SES homes had greater advantages in all areas of their story telling than did their peers from low-SES homes, revealing the extensive impact of socioeconomic status on children's language skills. Children from

the low-SES homes told stories which revealed lower vocabulary and shorter sentences. They were assisted in their inclusion of initiating event by picture saliency, but language effects from their lower vocabulary reduced their inclusion of characters' cognition. More experience with story sharing with adults may have assisted the children from the mid-SES group with the inclusion of characters' speech, resulting in a task effect due to this situation being more familiar to children from the mid-SES homes.

Furthermore, one story element was high occurring and some story elements were low occurring in the stories of all of the children, regardless of group or elicitation condition. High narrative and picture saliency could explain the high inclusion rate for consequence of the action, and low narrative and picture saliency could explain the converse low inclusion rate for hedges, negative qualifiers, and causal connectors. Task effects may impact inclusion of internal response, plan, and attempt if the roles of these elements within a story are not yet fully understood by most of the children. Lastly, language effects could impact all children at this age by their use of general pronouns instead of specific nouns when referring to characters. The impact of factors which affect the performance of all children needs to be considered in the development of materials and when evaluating the development of narrative skills.

Pictures were found to significantly assist a child when retelling a story. The use of pictures paired with an oral model was found to elicit better quality story retells than an oral-only model in terms of the inclusion of story grammar units and evaluative elements as well as lexical complexity. These findings are consistent with those of Schneider and Dubé (1997) who found that kindergarten children benefitted more in their story retells when pictures were paired with the oral model as compared with second graders. The

data from the current study extend the previous findings to the preschool level and show that preschoolers are even more sensitive than kindergarteners in benefitting from picture supports. These data add to the knowledge base for optimal presentation conditions for eliciting stories at this younger age as compared to older children and adults. Moreover, language abilities are supported because the pictures provide more for the children to talk about, resulting in more opportunities to use vocabulary, grammar, and discourse skills. Examination of the individual measures reveals that the literary elements which are depicted most saliently, specifically the secondary character, initiating event, attempt, consequence of action, and reaction of the second character, are the ones which are included most often by the children, again underscoring the importance of materials development. Considering the strong results in evidence that picture supports enhance the story retells of preschool children, future research should continue to explore the most efficacious methods for eliciting story retells from the preschool population, the clinical and preschool classroom applications for story retells, preschool support for children's learning of story retell skills, and the predictive relationship between preschool retells and later academic outcomes.

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Footnotes

1. The term “at-risk”, as defined by the U.S. Department of Education, refers to a school-aged individual who is at-risk of academic failure, is at least one year behind the expected grade level for the age of the individual, has limited English proficiency, or has a high absenteeism rate at school (Section 1432 of ESSEA, as amended by NCLB, 2002).
2. The state of Kansas funds a half-day (2.5 hours per day) educational program for four-year-olds who are at-risk of academic failure but do not attend Head Start. The At-Risk Four-Year-Old Preschool Program is operated by local school districts. The four-year-old children are identified for this program by the local school districts according to criteria such as the family living below the poverty level, teen parents, single parents, parents without high school diplomas, parents on military active duty, minor developmental delays, limited English proficiency, or eligible for free or reduced lunch. The program for four-year-old at-risk children in Valley Falls, Kansas, is one of the preschools supported by the state of Kansas and must follow these eligibility guidelines.
3. The United States Census Bureau (2010) stratifies income levels for socio-economic status as the household in the population with lowest 20% of annual income as being in poverty, the middle 60% of income as being the middle SES, and the upper 20% of annual income as being the upper SES. According to 2007 U.S. Census statistics (the most recent available), 20.2% of households had an income of over $100,000 per year.

Appendices

Appendix A

Parent Questionnaire

Child ID _____ Date _____

About Your Child

1. Your child's birth date: ____/____/____ (mm/dd/yy)

2. Your child is: ____ Male ____ Female

3. Is any language other than English spoken in the home? ____ Yes ____ No
   If yes, is your child bilingual? _____Yes _____No

4. Has your child been diagnosed with any of the following?
   _____ Language Impairment or Language Disorder
   _____ Learning Disability
   _____ Attention Deficit Disorder (ADD)
   _____ Attention Deficit Hyperactivity Disorder (ADHD)
   _____ Autism or Autism Spectrum Disorder
   _____ Pervasive Developmental Disorder
   _____ Conduct Disorder
   _____ Central Auditory Processing Disorder
   _____ Mental Retardation
   _____ Emotional Disorder (ex: Schizophrenia, Oppositional Defiant Disorder)
   _____ Oral Motor or Neuromuscular Dysfunction
   _____ Any other medical condition or syndrome
   Please specify:_____

5. Has your child ever received speech-language services? ____ Yes ____ No

6. Has your child ever had hearing screening? ____ Yes ____ No
   When? _____
   If yes, did your child pass the hearing screening? ____ Yes ____ No

About You

For the mother:

1. What was the highest level of education that you completed?

____ Less than high school

____ High school graduate/GED

____ Some college but no degree

____ Associate's/Technical degree

____ Bachelor's degree

____ Graduate degree (M.A., Ph.D., M.D., etc.)

2. What is your current occupation? _____

3. How many live in your household? _____

   How many children below the age of 18 live with you? _____

4. What is your yearly family income?

_____$20,000 or less

_____$21,000 – $30,000

_____$31,000 – $40,000

_____$41,000 – $60,000

_____$61,000 – $80,000

_____$81,000 – $100,000

_____Above $100,000

Appendix B

Oral versions of the episodes from *Oops* (Mayer, 1977) for the pilot study:

Story 1. Tessie Hippo went to the grocery store to buy some food. Mr. Rhino, the grocer, had just piled some oranges in the bin. Tessie thought, "Those oranges look juicy and yummy," so Tessie wanted to buy one. She took one orange from the bottom row of the bin. Those made the oranges roll onto the floor! Mr. Rhino was upset because the oranges rolled on the floor. "My oranges are ruined!" he cried. Tessie was embarrassed about the mess that she had made. She gave the orange back to Mr. Rhino and ran off. Tessie wanted to come back another day when Mr. Rhino was in a better mood.

Story 2. Tessie Hippo went to the glass store to buy glasses. Tessie thought, "The tall glasses are shiny and pretty," so she picked on glass up to hold it. The glass slipped and fell on the floor but it didn't break. Mr. Rabbit, the store clerk, watched Tessie from behind the shelves. When she leaned over to pick up the glass, her bottom knocked the shelves over. Mr. Rabbit tried to hold on behind. He was mad at Tessie. "You broke all of my pretty dishes!" he yelled. Tessie was embarrassed because she didn't mean to knock the dishes over. She decided to be more careful next time.

Story 3. Tessie Hippo went to the museum. Mr. Elephant, the guard, sat next to the dinosaur skeleton. Tessie saw a fly by the dinosaur bones. She was mad at the buzzing fly. "That fly should not be on the dinosaur skeleton," she thought, so she tried to swat it with her purse. Tessie missed the fly but she hit the bones. They crashed to the floor! Tessie was scared by the falling bones and ran out of the museum. Mr. Elephant was made because all of the bones were in a pile. "That hippo should put the skeleton back together!" he said as the buzzing fly flew away. All episodes include: 10 C-Units, 4

dependent clauses, 105 main body words, 61 word roots, and MLU in words of 10.50. MLU in morphemes were 11.40, 11.70, and 11.20, respectively.

Appendix C

Oral versions of the episodes from *Oops* (Mayer, 1977) for dissertation study (Stories 3 was used for task familiarization).

Story 1. Tessie Hippo was hungry. She wanted something to eat. Mr. Rhino, the grocer, had oranges in a box. One orange was bigger. Tessie thought, "That one looks yummy. Maybe it is sweet!" So she decided to buy it. She grabbed it out of the box. That made the oranges roll onto the ground! Mr. Rhino was upset because they rolled out. "She shouldn't ruin my oranges," he thought. Tessie was embarrassed because of the mess. She gave the orange to Mr. Rhino. Then she ran into another store.

Story 2. Tessie Hippo went to the dish store to look at glasses. She looked at one glass. Tessie thought, "This is pretty!" The glass fell onto the floor, but it didn't break. Mr. Rabbit, the owner, was behind the shelves. He watched Tessie bend over. Maybe she should be more careful. Her bottom knocked the shelves over. Mr. Rabbit tried to hold them. He was mad at Tessie. He yelled, "My dishes are ruined!" Tessie was embarrassed because she didn't mean to break them. She was really sorry.

Story 3. Tessie Hippo went to the museum. Mr. Elephant guarded the dinosaur skeleton. Maybe he should wake up. Tessie saw a fly. It landed on a bone. Tessie got mad. "That fly shouldn't be there!" she thought, so she tried to swat it with her purse. Tessie missed the fly but hit the bones. The dinosaur skeleton crashed to the floor! Tessie was scared and ran away. Mr. Elephant was upset because the dinosaur broke. "She needs to fix this skeleton," he thought. And the fly buzzed away.

All episodes include: 14 C-units, 85 total words, 51 different word roots, MLU in words of 6.0, and MLU in morphemes of 6.64. Each story also contains exemplars of every evaluative device to be assessed.

Appendix D

Directions for administration

Introductory Story. When the child is comfortable, say:

"I'm going to show you some pictures and listen to a story with you. OK?" The researcher will then play a recording of the introductory story to the child, pointing to the appropriate picture when each part of the story is read. The researcher will respond to the child's comments and questions appropriately with interest.

The researcher will then introduce the puppet by saying:

"I'd like to show you my friend Yertle. He's a turtle, so he's very shy. He loves to listen to stories, but only from children. He is too shy to listen to stories from grown-ups. He would love to hear you tell him a story. Would you like that?" The researcher and the child will also discuss how the turtle cannot hear when his head is retracted in the shell, and that is where it goes when he is shy because an adult is reading the story.

<u>Oral-Only Retell Format</u>

When the child is comfortable, say:

"Now, you're going to listen to a story. This story doesn't have any pictures. Listen carefully. Remember as much as you can. Then you can tell the story to Yertle later. Your story doesn't have to be just like mine. You can tell the story in your own words."

The episode will then be played for the child using a digital recording device. When the story is finished, the examiner will say, "Now it's your turn to tell the story to Yertle. In this story….." If the child does not start speaking, the examiner will say, "What happened in the story?" If the child stops speaking, neutral prompts followed by more specific prompts are allowed (follow chart for allowable prompts).

Oral-Retell with Pictures Format

When the child is comfortable, say:

"Now, you're going to listen to a story while you look at some pictures, too. Listen carefully. Remember as much as you can. Then you can tell the story to Yertle later. Your story doesn't have to be just like mine. You can tell the story in your own words." A laminated strip with the four pictures depicting the story will be laid in front of the child, and the episode will then be played for the child using a digital recording device. Pictures will be pointed to during the appropriate time in the reading. When the story is finished, the examiner will say, "Now it's your turn to tell the story to Yertle. In this story….." If the child does not start speaking, the examiner will say, "What happened in the story?" If the child stops speaking, neutral prompts followed by more specific prompts are allowed (follow chart for allowable prompts). While the child is retelling the story, all four pictures will be shown for the child to reference.

Appendix E

Prompts Retell condition: oral ____ pictures ____ **Child ID #_____**

Story: Grocery____ shop ____

Instructions: Tally number of prompts provided to the child on the line after the prompts. Responses to off-topic comments and direction to focus the child on task initially are not counted. Begin counting when the child has attempted a comment on task.

Level 1: Initial prompt for both conditions: In this story _____

- If the child does not respond, ask: What happened in this story? _____
- If the child still does not respond, ask: How does the story start? _____

Level 2: Neutral expressions to show continued listener interest such as “mhm” and “oh” are allowed. Repetition of the child’s utterance to aid in later transcription is also allowed. No more than four prompts at this level are provided.

- If the child stops speaking, ask a question such as "What’s next?", “And then…”, or "And after that…?"_____
- If the child continues not to respond, wait 2 seconds then ask a question such as “Tell me more!” or “What else went on?” _____

Level 3: If the child does not respond after level 2 prompts, stops talking after telling an end event, makes a statement which is about a previous story, or makes an ending statement such as "the end," the examiner will ask, "Do you have anything more to tell me about the story?"_____

- If the child responds in the negative, the child is allowed opportunity to give additional information. At the end of this information, the examiner will again ask, “Do you have anything more to tell me about the story?”

  _____

- A negative response, e.g., “no”, shake head, or off-topic statement, is needed. The question "Do you have anything more to tell me about the story?" may be repeated. No additional level 2 prompts are allowed after level 3 prompt is given, even if the child answers affirmatively and supplies additional story information.

Appendix F

Coding Guide for Story Grammar Units (Story Grammar Analysis adapted from Stein & Glenn, 1979).

Story Grammar Element	Criterion for scoring
Character 1	Reference to main character by name, animal, role, (e.g., any name, hippo, customer), not just "she".
Character 2	Reference to secondary character, by name, animal, position (e.g., rabbit, Mr. Rhino, guard), not just "he".
Location	Place story takes place (e.g., grocery store).
Initiating Event	Event that precipitates a response and plan (e.g., Tessie is hungry, or Tessie sees the big oranges).
Internal Response	Response to the initiating event (e.g., Tessie thinks they look yummy).
Internal Plan	Strategy to achieve goal (e.g., decides to buy an orange).
Attempt	Attempt to achieve goal (e.g., takes an orange from bin).
Consequence	Outcome from the attempt (e.g., oranges roll on floor).
Reaction of Character 2	Emotional response after outcome (e.g., upset)
Reaction of Character 1	Emotional or physical response after outcome (e.g., She feels embarrassed or runs away).

Note: The first three units (character 1, character 2, and location) are part of the setting and scored only if mentioned at the beginning of the story.

If an item is in a maze (e.g., name of a character, location), the item is still counted as it serves as an anaphoric referent for the story grammar element later in the story.

Appendix G

Coding guide for Evaluative Elements (Modified from Bamberg and Damrad-Frye, 1991)

Evaluation Device	Examples
Characters' emotions	Happy, sad, excited, scared
Characters' cognitions	Thinking, seeing, finding, wondering
Characters' direct or indirect speech	"Oh, no," he thought. He told her to go.
Hedges	Distancing devices suggesting uncertainty on the part of the narrator, e.g., "maybe" or "seems like"
Negative qualifiers	e.g., "She wasn't careful."
Causal connectors	Use of terms which explain the logical relationships between events, e.g., "because" or "that's why"

Appendix H

Examples of story retells and coding.

Oral-only retell, Low-SES group.

E Now it's your turn to tell the story to Yertle, in this story…

C (I don't remember it).

E What happened in that story?

C Jesse went over (to to get) to the dish store.

C (and what was it again what else did she did she do)?

E What else happened?

C (oh) and she grabbed the dish.

C and she said (one of) one of the dishes were pretty.

C (and) and they were to get another dish.

C but her big butt (um) hit the shelves.

C and the rabbit tried to hold them.

C and Mr Rabbit was so mad at her.

E did anything else happen?

C (uhuh I don't think so).

E Do you have anything else to tell me about that story?

C (uhuh)

Coding Guide for Story Grammar Units

+ Main character – Jesse

+ Secondary character – Mr. Rabbit

+ Location – dish store

+ Initiating event – she grabbed the dish

+ Internal response – she said one of the dishes were pretty

+ Plan – they were to get another dish

- Attempt

+ Consequence of action – her butt hit the shelves

+ Reaction of secondary character – he tried to hold the shelves / he was so mad

- Reaction of main character

Coding for evaluative elements:

1 Characters' emotions – he was so mad

0 Characters' cognition

1 Characters' direct or indirect speech - she said one of the dishes were pretty

0 Hedges

0 Negative qualifiers

0 Causal connectors

Picture-supported retell, Mid-SES group.

E Now it's your turn to tell the story to Yertle in this story…

E What happened in this story?

C Tessie was (was) hungry.

C and she wanted something to eat.

C and he saw a big orange in (in) the box.

C and he think that that one was sweet.

C and he got that one.

C and all the oranges rolled-ed down on the ground.

C (and he) and he was very cry.

E (aw).

C and he ran in the other store.

E Do you have anything else to tell me about that story?

C (no).

Coding for story grammar units:

+ Main character – Tessie

- Secondary character

- Location

+ Initiating event – Tessie was hungry / wanted something to eat

+ Internal response of main character – thought big orange was sweet

- Plan

+ Attempt – he got that one

+ Consequence of action - oranges rolled down on the ground

- Reaction of secondary character

+ Reaction of main character – he was very cry / ran into the other store

Coding for evaluative elements:

2 Characters' emotions – Tessie was hungry; he was very cry

3 Characters' cognition – she wanted something to eat; he saw a big orange; he think that that one was sweet

0 Characters' direct or indirect speech

0 Hedges

0 Negative qualifiers

0 Causal Connectors