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# A comparison of preschool children's discussions with parents during picture book and chapter book reading

First Language

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**Kathryn A. Leech and Meredith L. Rowe**

University of Maryland College Park, USA

## Abstract

Discussions that occur during book reading between parents and preschool children relate to children's language development, especially discussions during picture books that include extended discourse, a form of abstract language. While a recent report shows increased chapter book reading among families with preschool children, it is unknown whether chapter books also facilitate these types of conversations. Further, the substantial variation in preschoolers' language ability raises the question of whether chapter book reading may be beneficial for all children of this age. The current study examined the discussions between five-year-old children ( $N = 33$ ) and their parents while reading both a picture book and the first chapter of a chapter book. Findings are discussed in terms of the variation observed in the amount and types of discussion, how chapter book discussions compare to picture book discussions, and finally, how children's narrative skill can serve as an indicator of children's ability to participate in discussions, especially during chapter book reading.

## Keywords

Book genre, extended discourse, narrative, parent–child interaction, shared book reading

## Introduction

A recent trend reported in the popular press suggests parents of preschoolers are reading more chapter books with their children (Bosman, 2010). At first glance this may appear

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### Corresponding author:

Kathryn A. Leech, Department of Human Development and Quantitative Methodology, University of Maryland, 3304 Benjamin Building, College Park, MD 20742-1131, USA.

Email: [kleech@umd.edu](mailto:kleech@umd.edu)

surprising, as these chapter books are typically intended for more linguistically experienced children, ages seven-years-old and above. While a broad base of literature demonstrates that shared picture book reading provides opportunities for parents and children to engage in discussions beyond the text (e.g., Dickinson & Tabors, 2001) that foster children's language and early literacy development (e.g., Farrant & Zubrick, 2013; Whitehurst & Lonigan, 1998), it is unknown whether shared chapter book reading elicits these same types of interactions and positive outcomes. Further, as there is substantial variation in preschool children's language abilities, genre may influence the degree to which some children, namely those with less developed language skills, are capable of engaging in discussions during book reading.

While many studies have examined parent-child interactions during book reading (see Bus, van IJzendoorn, & Pellegrini, 1995 for a review), the present study takes a more specific approach by exploring how book genre may lead to differences in the quantity and quality of parent-child non-text discussions. In the present study, non-text discussion is defined as conversations that are on-topic to the story but do not explicitly involve reading the text. Indeed, recent evidence suggests that the type of book a parent chooses has a substantial impact on the quantity and quality of non-text discussion (e.g., Nyhout & O'Neill, 2013), yet this body of work has focused on the distinction between narrative and non-narrative picture books rather than between picture and chapter books. The present study extends the line of research on book genre by providing a detailed comparison of the non-text discussions during picture and chapter book reading that occur between a sample of five-year-old preschool children and their parents. In the present study, we define a picture book as a fictional storybook with pictures on each page that is age-appropriate for preschool children, and a chapter book as a book with little to no pictures that is primarily written for elementary school children. The overarching goal of this investigation is to determine the types of conversations parents and children have while reading picture and chapter books, whether these non-text discussions differ by book genre, and how children's current language ability affects their participation in these discussions.

## Book genre

We are unaware of any studies explicitly examining how non-text discussions between parents and children differ between chapter book and picture book reading. Past research comparing interactions between other genres, however, has indicated that the content of the book, the number of pictures, and the amount of text play a role in the quantity and quality of parent and child non-text discussions.

Compared to narrative or storybook texts, non-narrative texts (i.e., non-fiction) tend to elicit more non-text discussion (Anderson, Anderson, Lynch, & Shapiro, 2004) and more cognitively challenging talk from parents (Torr & Clugston, 1999; but see Nyhout & O'Neill, 2013 for an exception). Price, van Kleeck, and Huberty (2009) observed that when reading these texts with children, parents paused more often to identify similarities and differences throughout the text and provided more explanations compared to when reading narrative texts. DeTemple (2001) found that both the sheer amount of parent talk and proportion of abstract language were greater during non-narrative than narrative books.

While not explicitly comparing picture and chapter books, a few studies have examined parent–child interactions between two books that varied in the amount of pictures and text. For example, Peralta de Mendoza (1995) compared mother and child interactions (children aged 12–24 months) while reading a simple book with only one picture per page to a book that had more complex pictures. Interestingly, while the complexity of maternal speech did not vary substantially between the two books, the amount that children added to the interaction was greater with the simpler book. However, another study that compared books with no text and only pictures to books with only text found that parents had more discussions with their children during the wordless book (Sénéchal, Cornell, & Broda, 1995). The authors concluded that for books that contained text, parents tended to read the text at the expense of engaging in non-text discussions with children. Therefore, past studies appear to be equivocal with regard to how a book’s complexity might influence parent non-text discussion; that is, it is unclear whether parents adjust their strategies depending on the complexity of the book or remain stable in the quantity and quality of non-text discussion. These studies also indicate that children’s contributions to these discussions may be limited as the complexity of the book increases. As Fletcher and Reese (2005) noted, research examining how complexity may influence reading interactions is an understudied question despite the important consequences it may have on parent–child interactions and in turn, children’s language development.

### **Book reading as a context for parent–child interactions during preschool**

In general, non-text discussions during book reading are shown to foster preschool language and early literacy development (Bus et al., 1995; DeTemple, 2001; Sénéchal & LeFevre, 2001; Sénéchal, Thomas, & Monker, 1995; van Kleeck, Gillam, Hamilton, & McGrath, 1997). Children of parents who engage in discussions with their children outside the text develop stronger vocabulary and narrative skills (Dickinson & Tabors, 1991; Lever & Sénéchal, 2011; Whitehurst & Lonigan, 1998). Proficiency in these skills ultimately predicts successful fluent reading ability (e.g. Snow, Burns, & Griffin, 1998).

### **Extended discourse**

Non-text discussions initiated by parents and subsequent child responses often include extended discourse. Extended discourse is a term used to describe abstract speech that goes beyond the here-and-now (DeTemple, 2001). Frequent engagement in extended discourse has been shown to improve children’s developing language and literacy skills (Morgan & Goldstein, 2004; Rowe, 2012; Whitehurst et al., 1988) because this type of language is thought to increase the cognitive demand of book reading by simulating the type of talk that children will be exposed to when they begin formal schooling (Snow & Uccelli, 2009; Sonnenschein & Munsterman, 2002). Extended discourse requires a higher level of thinking and analysis on the part of the child in order to process these utterances and formulate a response (DeTemple, 2001). While comprising only a small

proportion of parents' total child-directed speech (DeTemple, 2001), even during book reading, it still remains a strong predictor of later language outcomes.

Extended discourse is a broad term which can be further categorized. Previous work on extended discourse has focused primarily on narratives and explanations (Beals, 1993, 2001; Beals & Snow, 1994; DeTemple, 2001). Specifically, Beals (2001) found that narratives, defined as talk about an event that has happened in the past or that will happen in the future, and explanations, defined as a reference to people's actions or speech or cause-and-effect statements, comprise roughly 15% of parents' talk to three- to five-year-old children during mealtimes. Aside from narratives and explanations, parents can use other types of extended discourse, such as predictions, to make the child think more analytically about the story plot, compared to discussions involving picture labels or yes/no questions. Connections to the real world are a common strategy parents incorporate into their reading routine and involve drawing an abstract connection between a specific aspect of the story to some related event or idea. Previous work examining these 'text-to-life' discussions between parents and children (Morgan & Goldstein, 2004) suggests that these conversations are likely to elicit elaboration from children because they involve topics that are familiar to the child. Finally, other types of extended discourse, such as test questions, are defined as any question in which parents already know the answer (Grosse & Tomasello, 2012). DeTemple (2001) considered questions about general knowledge during book reading as 'non-immediate talk', because they check their child's understanding of the text or knowledge in general. Test questions can vary in their level of abstractness; questions such as, '*how is this dinosaur different from this other dinosaur?*' requires a child to synthesize two pieces of information together, while a question such as, '*what type of dinosaur is this?*' requires less abstraction from children.

Compared to extended discourse, which is comprised of non-present and abstract topics, contextualized discourse, or immediate talk (DeTemple, 2001), is defined as parental speech that is focused on the here-and-now (DeTemple, 2001). The purpose of contextualized discourse, for example, could be to retell or summarize an aspect of the story or label an illustration. Contextualized discourse is thought to be less challenging for children to comprehend and respond to than extended discourse because it does not require the child to go beyond the information provided in the print or through the illustrations or to think analytically. Consequently, contextualized input during the preschool years is less predictive of children's language development (Demir, Rowe, Heller, Levine, & Goldin-Meadow, under review; DeTemple, 2001).

## **The role of children's language skill in book reading interactions**

While copious studies have demonstrated links between qualities of parent speech, such as extended discourse, and preschool children's language and early literacy skills, less research has conceptualized children's current language skills as a gauge of their ability to participate in these challenging discussions. As the purpose of parental extended discourse is to engage the child in discussions of the story beyond the text, speech contributions from the child are vital and might depend on the language skills that children bring with them to the

interaction. Several studies have reported how a child's vocabulary skills influence the types of discussions children have with adults during book reading (Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996; Hindman, Connor, Jewkes, & Morrison, 2008; Hindman, Wasik, & Erhart, 2012; Pellegrini, McGillicuddy-DeLisi, Sigel, & Brody, 1986; Reese & Cox, 1999). While some studies have reported mixed findings regarding whether initial language ability interacts with the type of non-text discussions (Hindman et al., 2008, 2012), one study in particular found that word learning over a six-week period depended not only on the level of complexity of discussions that children had with adults, but also children's initial vocabulary skills. Specifically, four-year-old children who began the study with lower vocabulary levels learned more words when adults used lower cognitive demand, or contextualized discussion strategies, whereas children with higher initial vocabulary skills learned more words when adults focused on extended discourse strategies (Reese & Cox, 1999). It thus appears that the skills children bring to an interaction help shape the discussions that take place and subsequently what is learned from book reading.

Children's developing language ability is comprised of more than just vocabulary, however (Hindman et al., 2012). Other skills, such as narrative ability, may also serve as an indicator of the child's ability to contribute to non-text discussions with parents during book reading. In the current study, we chose narrative skill as an indicator of children's ability to engage in non-text discussion because, like vocabulary, it is an important prerequisite for the development of more advanced literacy skills such as reading comprehension (Dickinson & Tabors, 2001) and overall school readiness (Fiorentino & Howe, 2004). Children who demonstrate cohesive, organized, and detailed narratives also possess the oral communication ability needed to be successful in formal school settings (Fiorentino & Howe, 2004; Peterson, 1994). Further, research has demonstrated that eliciting oral narratives using a wordless picture book requires children to talk about non-present ideas and events, for example, by making inferences and predictions about a character's goals or understanding a character's thoughts and feelings (Peterson, 1994). These abilities also reflect the abstract nature of extended discourse. Thus, because a well-told narrative reflects proficiency in oral communication as well as abstract thinking, children with higher narrative skills may be capable of engaging in more non-text discussions and potentially greater amounts of extended discourse during shared book reading.

The missing piece of this argument is how book genre might interact with children's narrative skills; that is, are children's linguistic contributions different depending both on book genre and their current narrative abilities? The level of text difficulty or absence of pictures in chapter books might prevent some children with lower narrative abilities from contributing to a discussion to the same degree that they would during picture book reading. This raises the possibility that children's contributions to interactions surrounding picture books may be similar across children with varying narrative abilities, while children with higher narrative abilities may contribute more to interactions surrounding more difficult and abstract genres such as chapter books compared to children with lower abilities.

## **Purpose of present study**

The present study seeks to add to the current literature on book genre by comparing parent-child interactions during picture book reading to interactions during chapter book

reading. As picture book reading has been shown to promote children's language and early literacy development through the discussions beyond the text, it is important to discern whether chapter book reading provides a similar or different context for these types of parent-child interactions, especially among a sample of preschool children with varying narrative abilities. By comparing interactions during picture book reading to interactions during chapter book reading, we are able gain a sense of how parents and children may interact differentially depending on book genre by asking the following three research questions:

1. What do parent-child non-text discussions look like during picture and chapter book reading and how much variability is there across dyads and genre?
2. How do parent and child non-text discussions during chapter book reading compare to discussions during picture book reading?
3. Does children's current narrative skill relate to their non-text discussions and if so, are the relations similar across book genre?

## Method

### *Participants*

Thirty-five parent-child dyads were recruited to participate in the present study. The sample of dyads met the following inclusion criteria: (1) the primary language spoken in the home was English, (2) the child was typically-developing, and (3) the child had not completed more than a month of kindergarten. Data were collected for 35 families initially; however two parent-child dyads were excluded from analyses, one following parent report of atypical development, and one due to experimenter error during data collection. This resulted in a final sample of 33 dyads.

Of the 33 parents who were included in the analyses, 28 were mothers and five were fathers. Fifty-six percent of parents reported obtaining a graduate or professional degree, 25% reported obtaining a bachelor's degree, while the remaining 14% reported completing some college. Children (21 girls and 12 boys) ranged in age (years; months) from 4;10 to 5;11 ( $M = 5;4$ ,  $SD = 0;3$ ). As reported by parents, 23 children were Caucasian, five were African American, one was Asian/Pacific Islander, and four parents did not report their children's ethnicity.

### *Procedure*

All participating families were recruited through a university database of parents interested in participating in studies related to child development. Parents of four- and five-year-old children who were listed in the database were initially contacted by phone or email. If interested parents met the inclusion criteria, the researcher scheduled a visit at the family's home. The one-hour home visit consisted of a picture and chapter book reading interaction, a parent-child game involving magnets that occurred in between reading the two books (not included in this analysis), a parent demographic questionnaire, and an assessment of children's narrative ability (as described below).



Parent-child dyads were videotaped reading a picture book and the first chapter of a chapter book. All dyads read the following books together: *Tyrannosaurus drip* (Donaldson & Roberts, 2007) and chapter 1 from *The mouse and the motorcycle* (Cleary, 1965).<sup>1</sup> *Tyrannosaurus drip* was selected because it was likely unknown to American children and contained a plot that lent itself to extended discourse discussion. As we anticipated children would be less familiar with chapter books overall, we selected an American best-seller. None of the children were familiar with the books used in the study. The number of words in the picture book and chapter book was 856 and 1147, respectively. An analysis of the texts' utterances using the VOCD program in CLAN indicated that the chapter book's text contained more diverse vocabulary (VOCD = 97.9) than the picture book (VOCD = 64.39). The study design was counterbalanced such that half of the dyads read *Tyrannosaurus drip* first while the other half read *The mouse and the motorcycle* first. Following the book reading interactions, parents filled out a short questionnaire that contained items about ethnicity, parent education, as well as book reading practices at home.

While parents completed the questionnaire, the researcher elicited children's narratives using the wordless picture book *The chicken thief* (Rodriguez, 2010). This picture book tells the story of a fox that kidnaps a chicken. The majority of the pictures follow the chicken's animal friends on a quest to rescue the chicken from the fox. Once the animals catch up with the fox and chicken, however, they realize that the fox is not a villain but has actually befriended the chicken.

Children were introduced to the book by the researcher and asked to tell the story using the pictures. The child was first instructed to independently look through the book to get a sense of the main ideas of the story. Once the child was familiar with the book, he/she told the story to the researcher and the subsequent narrative was videotaped. Researcher prompts were limited to requests for clarification if the researcher did not hear or understand the child, or requests to continue (i.e., 'anything else?') if the child hesitated for an extended period of time. The children, not the researcher, controlled the pace of the narrative by turning the pages when ready.

### Transcription

Individuals trained to transcribe reliably using the CHAT conventions of the Child Language Data Exchange System (CHILDES; MacWhinney, 2000) transcribed all parent and child non-text speech from the book reading interactions, as well as child speech from the narrative elicitation. The unit of transcription was the utterance, defined as a sequence of words preceded or followed by a pause or a change in conversational turn (Bakeman & Gottman, 1997). A second research assistant independently verified each transcript for accuracy. When the second transcriber disagreed with the first, a third research assistant was consulted and a decision reached.

### Coding

All parents read both texts as directed with very minor errors. Our primary interest was to explore parent-child discussions during picture and chapter book reading, thus our



**Table 1.** Extended discourse coding scheme.

Category	Definition	Example
Connections	Talk that draws a connection between an aspect of the current story to a more abstract topic or real life	'What usually comes with lightning?'
Narratives	Talk that focuses on events that happened in the past or will happen in the future (Beals & DeTemple, 1993)	'I read this book a long time ago.'
Predictions	Talk that requires a child to guess to what comes next in the story; always a question	'What do you think is going to happen?'
Explanations	Talk that makes a logical connection between concrete objects, events, or conclusions (Beals, 1997, 2001), or a formal definition: definition of a word that uses a super-ordinate category	'Drip-drying means that you hang something wet.'
Test questions	Questions in which the purpose is to ask for information obviously already known to the questioner (Grosse & Tomasello, 2012)	'Does he look like the other dinosaur?'

*Note:* Parent's non-text utterances were coded as extended discourse if they fell into one of these categories. Children's non-text talk was coded in a similar manner with a few exceptions: children never offered an explanation to parents, thus this category was dropped for children, and children's responses to parent test questions were coded in the test question category.

coding focused only on non-text speech. All parent and child non-text speech was reliably marked in the transcripts and further coded as noted below.

*Extended discourse.* Parent utterances were coded as extended discourse if they fell into the following categories: connections to the real world, narratives, predictions, explanations, and test questions. Children's utterances were classified as extended discourse if they fell into the following categories: connections to the real world, narratives, predictions, and responses to test questions. Table 1 displays definitions and examples of each type of extended discourse.

*Contextualized discourse.* Parent and child non-text utterances that were on-topic to the story and did not fall into any extended discourse category were coded as contextualized discourse using the categories of labels and plot summaries. Labels were defined as any utterance that explicitly pointed out an illustration (e.g., 'this is a dinosaur'); plot summaries were defined as speech that aimed to recap or summarize the story, but critically, never going beyond the information provided in the text (e.g., 'okay so here on this page, the dinosaurs want to eat them').

*Miscellaneous utterances.* The remaining parent and child non-text utterances were coded as miscellaneous talk and excluded from all analyses involving extended discourse. This category included, but was not limited to, parent utterances that attempted to capture children's attention, parent or child requests for clarification, or pointing to a picture without explicitly labeling it (e.g., look!).

*Reliability.* Two research assistants initially coded 20% of the transcripts. Percent agreement on the coding system averaged 91% with a mean Cohen's kappa value of .79. One research assistant then coded the remaining transcripts. A second reliability check between the two coders later in the process revealed similar reliability statistics.

*Children's narratives.* Narrative transcripts were coded for children's story comprehension by counting the number of idea units present in each narrative (see Curen-ton & Justice, 2004 for a similar method). We identified 22 idea units that were central to the storyline of the animals chasing the fox and chicken and when the animals realize that the fox and chicken are friends. Each page contained at least one idea unit and three pages contained two units. Two research assistants scored each transcript for the number of idea units the child mentioned. Percent agreement averaged 89% with a mean Cohen's kappa value of .81.

## Measures

*Home book reading practices.* We measured the frequency of picture and chapter book reading on a scale of 1–4 (1 being *hardly ever* to 4 being *almost daily*). A large majority of parents reported reading picture books at least once a day to their children (82.3%). Chapter books were read by parents, but less frequently, as only 17.6% of parents reported reading these books daily.

## Speech measures during book reading

*Quantity and quality of speech.* Interactions were transcribed verbatim. In order to separate text utterances from non-text utterances, we marked any utterance that was read verbatim from the text and excluded these from all further analyses. The utterances that remained included any extra-textual utterance used by the parent or child, which we refer to as non-text talk.<sup>2</sup> The total number of non-text word tokens produced served as a measure of quantity of speech. This measure was calculated for both parents and children. The number of different non-text words (word types) was used as a measure of vocabulary diversity. Word types were calculated for parent and child non-text speech.

*Extended and contextualized discourse.* We used extended and contextualized discourse as raw frequency counts at the level of the utterance as our measures for analyses. The percent of non-text talk that was extended and contextualized discourse is presented for descriptive purposes.

## Child language ability

*Child narrative skill.* We measured children's narrative ability by summing the number of idea units, or the number of critical narrative components, the child mentioned during the narrative elicitation (range = 1–23 units,  $M = 10.3$ ;  $SD = 4.9$ ). We then calculated a median split (median = 11) to create high ( $n = 17$ ) and low ( $n = 16$ ) narrative ability groups.

**Table 2.** Parent and child speech measures during picture and chapter book reading.

	Parent		Child	
	Mean (SD)	Range	Mean (SD)	Range
<i>Picture book</i>				
Types	67.03 (50.17)	2–239	29.88 (26.03)	0–96
Tokens	135.61 (152.89)	3–757	47.91 (51.24)	0–192
Non-text utterances	39.24 (38.64)	3–184	18.21 (18.69)	0–84
<i>Chapter book</i>				
Types	63.24 (42.94)	0–156	18.91 (18.58)	0–90
Tokens	116.36 (100.79)	0–370	26.36 (29.22)	0–131
Non-text utterances	33.58 (27.96)	0–108	10.21 (10.73)	0–44

## Results

### *Variability in non-text speech during book reading interactions*

Our first goal was to explore the non-text speech used by parents and children during picture and chapter book reading. We begin by presenting descriptive statistics of parent and child speech during both reading interactions, and in particular highlight the variability observed in each measure. While every parent read all the text, we did observe differences in the amount of time spent engaging in each book, suggesting that some parents emphasized non-text discussion more than others. Reading times ranged from 5:20 to 13:30 (minutes: seconds) for the picture book ( $M = 7:36$ ) and from 6:00 to 11:20 for the chapter book ( $M = 8:01$ ).

*Picture book reading.* Table 2 displays descriptive statistics for parent and child non-text speech while reading both genres. Parents varied considerably in the quantity of talk (utterances and word tokens), diversity of their vocabulary (word types) despite the relatively demographically homogeneous sample. For example, parents produced between 3 and 184 non-text utterances ( $M = 39.24$ ;  $SD = 38.64$ ) while reading picture books. Children also varied considerably in their non-text talk.<sup>3</sup> For example, children's non-text utterances ranged from 0 to 84 ( $M = 18.21$ ;  $SD = 18.69$ ).

Variation was also observed in parents' and children's overall use of extended discourse and their use of specific types of extended discourse (Table 3). Parents used between 0 and 49 extended discourse utterances ( $M = 8.76$ ;  $SD = 10.75$ ) and 85% of parents used at least one type of extended discourse while reading the picture book. Children's use of extended discourse ranged from 0 to 23 utterances ( $M = 5.82$ ;  $SD = 6.26$ ) and 85% of children were observed using at least one instance of extended discourse. Additionally, both parents' and children's non-text discussions involved some contextualized discourse (parents:  $M = 5.79$ ;  $SD = 7.73$  utterances; children:  $M = 2.27$ ;  $SD = 3.69$  utterances).

*Chapter book reading.* Substantial variation was also observed in parent and child speech measures during chapter book reading (Table 2). For example, the range in parents'

**Table 3.** Parents' and children's use of extended and contextualized discourse.

	Picture book			Chapter book		
	Number of utterances (SD)	Range	% of non-text talk	Number of utterances (SD)	Range	% of non-text talk
<b>Parent speech</b>						
<i>Extended discourse</i>						
Connections	.36 (1.03)	0-5	.88	2.03 (4.59)	0-24	4.30
Predictions	.88 (1.47)	0-5	1.70	.61 (.93)	0-3	1.60
Explanations	.82 (1.76)	0-9	1.40	1.88 (4.12)	0-19	3.74
Narratives	.36 (1.11)	0-5	1.20	1.21 (2.18)	0-9	3.62
Test questions	6.27 (7.85)	0-34	13.55	2.12 (2.94)	0-12	5.70
Composite	8.76 (10.75)	0-49	18.70	7.85 (9.30)	0-33	18.9
<i>Contextualized discourse</i>						
Labels	2.33 (4.56)	0-24	3.90	1.33 (1.56)	0-6	4.30
Plot summaries	3.45 (4.51)	0-18	7.30	.64 (.99)	0-4	2.01
Composite	5.79 (7.73)	0-31	11.20	1.96 (2.05)	0-7	6.30
<b>Child speech</b>						
<i>Extended discourse</i>						
Connections	.09 (.29)	0-1	.58	.52 (1.39)	0-7	3.10
Predictions	.82 (1.26)	0-5	3.64	.21 (.48)	0-2	2.74
Narratives	.18 (.73)	0-4	1.40	.09 (.38)	0-2	1.30
Test questions	4.73 (5.45)	0-21	28.5	1.79 (2.61)	0-10	17.2
Composite	5.82 (6.26)	0-23	34.0	2.58 (3.66)	0-13	24.0
<i>Contextualized discourse</i>						
Labels	1.00 (1.85)	0-7	4.00	.27 (.52)	0-2	4.20
Plot summaries	1.27 (2.25)	0-9	6.00	.09 (.38)	0-2	.03
Composite	2.27 (3.69)	0-16	10.10	.36 (.65)	0-2	4.50

non-text utterances fell between 0 and 108 ( $M = 33.58$ ;  $SD = 27.96$ ). Similarly, children varied in the quantity and the content of their non-text talk. Children's non-text utterances ranged from 0 to 44 ( $M = 10.21$ ;  $SD = 10.73$ ).

While some parents did not use any extended discourse during chapter book reading, other parents used as many as 33 instances ( $M = 7.85$ ;  $SD = 9.30$ ), and 88% of parents used at least one type (Table 3). Compared to extended discourse, contextualized discourse was used less frequently among parents ( $M = 1.96$ ;  $SD = 2.05$ ). Extended discourse was used at least once by 67% of children, and their use of this type of talk ranged between 0 and 13 instances ( $M = 2.58$ ;  $SD = 3.66$ ). Similar to their parents, children used contextualized discourse less frequently ( $M = .36$ ;  $SD = .65$ ) than extended discourse.

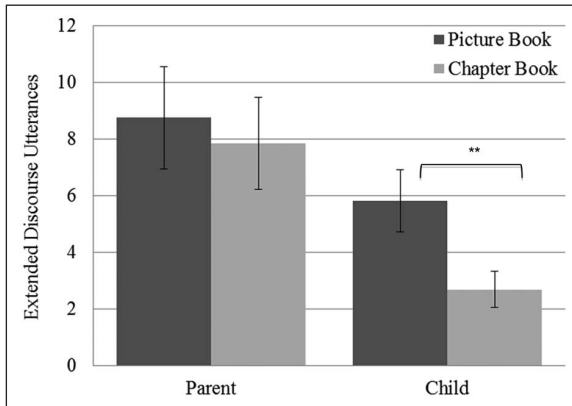
Parent and child speech measures were related during both book reading interactions. During picture book reading, parents who used more of each speech measure had children who did the same (word types,  $r = .77$ ,  $p < .001$ ; word tokens,  $r = .63$ ,  $p < .001$ ; extended discourse,  $r = .95$ ,  $p < .001$ ). Similar findings emerged for chapter book reading (word types,  $r = .78$ ,  $p < .001$ ; word tokens,  $r = .79$ ,  $p < .001$ ; extended discourse,  $r = .61$ ,  $p < .001$ ).

### *Differences in speech measures as a function of book genre*

Our second question explored how speech characteristics (i.e., word types, tokens, and extended discourse) varied depending on the book genre. We conducted a repeated measures ANOVA for both parents and children with book genre as the independent variable and word types, word tokens, and extended discourse as the dependent variables. For word types and tokens, we controlled for differences in reading time by dividing each measure by the number of minutes spent reading (i.e., word tokens and types per minute). Extended discourse was coded at the utterance level and was analyzed using raw frequencies for ease of interpretation, yet findings were the same when using the proportion measures.

*Parent speech.* Despite the variation in parents' speech characteristics across the sample, individual parent speech characteristics were remarkably similar across genres. A repeated measures ANOVA was conducted to compare the effect of book genre on extended discourse, word tokens, and word types. No effect of book genre was observed, Wilks' lambda = .96,  $F(3,30) = .39$ ,  $p > .05$ . Interestingly, book genre did appear to have an effect on one *specific* type of extended discourse that parents used. After adjusting for Type I error by setting the alpha level to .01, parents posed significantly more test questions during picture book reading to their children than during chapter book reading,  $t(32) = 3.45$ ,  $p < .01$ . Parents' contextualized discourse composite score also differed as a function of book genre with more contextualized discourse occurring during picture book reading than chapter book reading,  $t(32) = 9.44$ ,  $p < .01$ .

*Child speech.* While parents' word types, tokens, and overall extended discourse was similar between genres, all measures of children's speech were greater during picture book reading (Figure 1). A repeated measures ANOVA was conducted to compare the

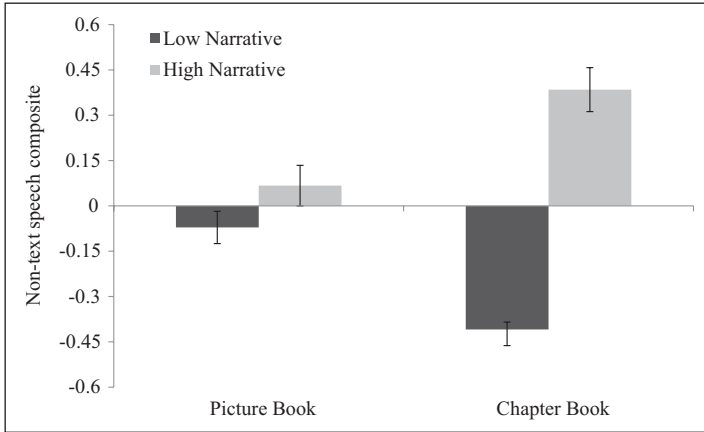


**Figure 1.** Differences in use of extended discourse during picture and chapter book reading. Notes: \*\* $p < .01$ . Children's composite extended discourse score was significantly greater in picture book reading than during chapter book reading, whereas parents' score did not significantly differ between books.

effect of book genre on children's extended discourse, word tokens, and word types. An effect of book genre was observed, Wilks' lambda = .262,  $F(3,30) = 28.12$ ,  $p < .001$ . As the omnibus  $F$  test was significant, paired samples  $t$ -tests were used to make post-hoc comparisons between book genre on the three dependent variables. Since multiple  $t$ -tests were conducted, we adjusted for Type I error by dividing the initial alpha level by the number of tests conducted (i.e.,  $.05/3 = .017$ ) and used this value as our new alpha level. Results indicated that children used significantly more non-text word tokens per minute,  $t(32) = 8.75$ ,  $p < .001$ , word types per minute,  $t(32) = 2.72$ ,  $p = .01$ , and extended discourse utterances,  $t(32) = 3.64$ ,  $p < .01$ , during picture book reading compared to chapter book reading. Similar to parents, the frequency with which children used specific types of extended discourse depended on book genre. After adjusting for Type I error, children responded to significantly more test questions  $t(32) = 3.55$ ,  $p = .001$ , and predictions during picture book reading,  $t(32) = 2.73$ ,  $p < .01$ , than chapter book reading.

### *Influence of narrative skill on children's speech*

Our final research question addressed whether children's speech contributions differed by (1) their narrative ability and (2) book genre. We predicted that greater narrative skills would allow children to contribute more to non-text discussions, and we were particularly interested in whether this relationship would vary depending on which book was being read. To minimize the number of analyses, we used principal components analysis to calculate a composite score of children's non-text speech from the following three variables: word types per minute, word tokens per minute, and number of extended discourse utterances. A composite score was calculated separately for the picture book and chapter book. All variables were weighted equally and positively in both composites, and both composite variables explained over 75% of the variance in the original three variables (picture book eigenvalue = 2.33, 77% of variance; chapter book eigenvalue = 2.51,



**Figure 2.** Differences in non-text talk between children with higher and lower narrative skills. *Note:* Differences in children's non-text talk composite scores were observed between picture and chapter book reading as a function of narrative skill group. Lower and higher narrative groups produced similar amounts of non-text talk during picture book reading. During chapter book reading, however, children with higher narrative skills produced significantly more non-text speech than children with lower skills.

83% of variance). In other words, for a child to score high on this measure of non-text talk, he or she would have to produce many word types, word tokens, and extended discourse utterances. We then conducted a  $2 \times 2$  repeated measures ANOVA with book type (picture, chapter) as the within-subjects factor, children's narrative ability (high, low) as the between-subjects factor, and the non-text speech composite scores as the dependent variables.

As expected, the effect of children's narrative ability on their non-text speech differed as a function of book genre. While high and low narrative ability children produced a similar amount of non-text speech during picture book reading, children with higher narrative skills contributed more to non-text discussion during chapter book reading compared to children with lower narrative skills,  $F(1,31) = 4.35, p < .05$ . Figure 2 displays this interaction. To ensure that this finding was not an artifact of the median split, we re-ran the same analysis but only included children with scores in the top third ( $n = 11$ ) and bottom third ( $n = 11$ ) of total narrative scores (i.e., leaving out the middle 11 scores). We found the same genre  $\times$  narrative interaction. Children with greater narrative skills contributed more to non-text discussion during chapter book reading than children with lower narrative skills, whereas no differences emerged during the picture book interaction,  $F(1,20) = 8.68, p < .01$ .

## Discussion

The current study is the first to compare parent-child picture and chapter book reading interactions as well as the first to examine how narrative skill plays a role in children's ability to participate in non-text discussions while reading different book genres. Previous studies have demonstrated differences in speech across genre that differed in content



(Anderson et al., 2004; DeTemple, 2001; Nyhout & O'Neill, 2013; Price et al., 2009), as well as the number of pictures per page (Peralta de Mendoza, 1995). We extended this line of research on book genre by providing evidence that the differences between chapter and picture books also play a role in children's participation in non-text discussions.

### *Stability in parent speech across book genre*

In this fairly homogeneous sample, there was wide variability in parents' non-text speech during both picture books and chapter books. Despite this substantial variation across parents, individual parent talk did not differ by book genre. That is, parents' use of word types, tokens, and extended discourse utterances were the same, on average, during picture book and chapter book reading. This finding is surprising as prior research has shown that, compared to wordless picture books, parents use less non-text discussion while reading books with text (Sénéchal, Cornell, & Broda, 1995<sup>4</sup>). Thus even during a text-heavy book like *The mouse and the motorcycle*, parents still paused to engage in non-text discussions with their children as much as they did during the picture book.

An even more surprising finding was that parents' use of extended discourse during chapter book reading was similar to their use of this challenging speech during the picture book. That is, we did not find that parents used fewer challenging discussion strategies (i.e., less extended discourse in favor of more contextualized discourse) during chapter books, again something that might be expected if parents felt their child needed more scaffolding during chapter book reading. It may be the case that each parent's communicative style is so stable that variables such as book genre are unable to introduce differences. This is an unlikely explanation as we did find that parents used significantly more contextualized talk, and specifically picture labeling, during picture book reading. This makes sense, as the text in *Tyrannosaurus drip* contained some non-overlapping material with the pictures, essentially giving parents two modalities of contextualized information to discuss: one from the text, and one from the pictures. As *The mouse and the motorcycle* contained only two black-and-white illustrations, this book did not give parents as many opportunities to label illustrations as *Tyrannosaurus drip*, which had colored illustrations on every page.

We also found consistent patterns in the specific types of extended discourse parents used. For example, during picture book reading, parents overwhelmingly used more test questions than other types of extended discourse. As test questions are a type of academic language, these questions might be a common strategy that highly educated parents use to prepare children for the talk they will be exposed to in kindergarten. Anecdotally, we observed significant variation even within the category of test questions. For example, parents asked questions to check their child's understanding of the story (e.g., 'who is that?') or they asked questions that require more abstract thinking (e.g., 'why do you think the character is acting this way?'). Future research could examine the specific types of test questions parents use, as they occur frequently in preschoolers' book reading interactions.

While we did not include teaching behaviors in our coding scheme, we observed that a number of parents engaged in teaching behaviors during both picture and chapter book

reading interactions. Parents, for example, pointed to salient text features (e.g., bold-faced words) in the picture book, asked children to sound out and identify simple words, or pointed to a picture of a plant while saying the word *plant*. Interestingly, paralleling the findings from our coded speech measures, it appeared that parents who displayed teaching behaviors during one text also displayed similar behaviors during the other text.

### *Differences in children's speech across genre*

In contrast to the similarities found in parent speech across book genre, children talked more, used more diverse vocabulary words, and used more extended discourse during picture book reading. This suggests that the level of book difficulty affects children's ability to contribute to non-text discussions. This finding is consistent with past research showing that book complexity, defined as the number of pictures per page, limited children's participation in book reading conversations (Peralta de Mendoza, 1995). However, while Peralta de Mendoza (1995) explored this question with a sample of children under age five, the present study's findings indicated that book difficulty also appears to impact the non-text discussions of children who are about to enter kindergarten, and extends prior research by showing differences in a particularly important type of challenging discussion, extended discourse.

Age five is a critical age for shared book reading, especially reading that encourages challenging non-text discussions through use of extended discourse. Past research has shown that non-text discussions that challenge children to think beyond the here-and-now prepare them for the academic language they will be exposed to during kindergarten and beyond (Sonnenschein & Munsterman, 2002). While parents provided opportunities for these types of discussions during both book genres, we found that children more often reciprocated during picture books. It could also be the case that five-year-old children's contributions to book reading interactions are less dependent on parents' speech compared to interactions between parents and younger children, as many previous investigations of book genre have used samples of younger children (e.g., Nyhout & O'Neill, 2013).

It is interesting to speculate exactly why chapter books resulted in less non-text discussion from children. Three candidate explanations are possible: the text complexity, the sheer amount of text, and the lack of pictures. The chapter book contained both more text and more complex text than the picture book. Therefore, it is not possible to tease apart the role of text quantity and text complexity. However, since pictures were present on every page in the picture book, but on only two pages in the chapter book, we were able to use this difference to examine whether pictures were the source of non-text discussion from children. Within the chapter book, we separated our transcripts based on the conversations that occurred during each page. We then compared the number of children's word types per page on pages with pictures to word types per page on pages without pictures. Interestingly, children used just as many word types on pages without pictures than pages with pictures. This provides some indirect evidence that the lack of pictures was not the reason that children talked less during chapter book reading, as their proportion of talk surrounding pictures was equal to their talk on pages without pictures.

Our findings should inform parents' choice in books to share with children; choosing books that encourage more discussions that include extended discourse give children more opportunities to think critically and abstractly about the story beyond what is written on the printed page. Given the design of the current study, we cannot draw any conclusions about whether picture books foster children's language more so than chapter books. However, we can conclude that the context of picture books allows for children to engage in challenging discussions compared to chapter books, despite the fact that parents' non-text talk was similar during both books. It is possible, of course, that children may benefit from the more complex text in chapter books as well. As the current investigation focused on differences in extended discourse, future studies could examine how other features of chapter books, such as inclusion of rare vocabulary words, may benefit preschool children's language development in other ways.

### *Role of narrative ability in children's non-text discussion*

While it was observed that child speech measures were all greater during picture book reading, it was not the case that children's non-text talk was non-existent during chapter book reading. Given this variability, we examined how children's narrative ability might help explain why some children were able to contribute more to discussions during chapter books than other children. Indeed, the five-year-olds in our sample varied in their narrative skill, and these differences affected how much they contributed to discussions across genre.

We demonstrated that children with higher narrative skills used more overall non-text talk during the chapter book compared to children with lower narrative skills. In contrast, these two groups produced similar amounts of non-text speech during the picture book. This pattern was observed when considering all children as well as only children with the highest and lowest narrative scores. Given our analytic strategy of using principal components analysis to combine child word tokens, types, and extended discourse, it is important to point out that composite scores can only be interpreted in relation to the means for each book separately. In other words, during picture book reading, both higher and lower ability children's non-text speech composite scores were similar to each other, and close to the mean of picture book non-text speech for the entire sample. However, during chapter book reading, children with higher narrative skills had a non-text speech composite measure that was on average .40 standard deviations above the mean of chapter book non-text speech. Children with lower narrative skills, on average, had non-text speech composites .40 standard deviations below the chapter book mean.

Because we observed no difference in parent speech across book genre, we can speculate that parents attempted to engage their children in high-level discussions to the same degree during each book. However, during chapter book reading, children with higher narrative skills were able to engage more in the discussion than children with lower narrative skills. We offer some speculation regarding why this pattern of results emerged. First, it may be that the presence of pictures helped children with lower narrative abilities participate in non-text discussions during picture book reading. As suggested by Paris and Paris (2003), pictures can be used as an anchor to springboard a subsequent discussion about the story, and this may be especially true for children with lower skills.

As very few pictures were present in the chapter book, this scaffold was unavailable and may have limited the non-text contributions from children with lower skills. It may also be that children with higher narrative abilities have a more developed sense of story structure (Griffin, Hemphill, Camp, & Wolf, 2004; Uccelli, Hemphill, Pan, & Snow, 2005), allowing them to comprehend the chapter book at a more advanced level. Because of this more astute awareness of story structure, children with higher skills were less focused on story comprehension and more able contribute to the non-text discussions initiated either by parents or themselves.

### *Limitations and future research*

Several aspects of this study should be mentioned that may limit how the results can be interpreted. First, the sample was comprised of highly educated parents, and the book reading practices (e.g., frequency of chapter book reading and extended discourse discussions) observed in this study may not be representative of parents with less education. Second, none of our observations are causal, as all of these measures were taken at the same time. However, we assume that both the parent and the child are influencing each other and our aim was to examine how book genre and child language ability played a role in both parent and child non-text speech. Future studies might address this issue by using a longitudinal design to examine how the frequency of chapter book reading in the home may relate to parent and child use of extended discourse during chapter book reading, and how this may in turn relate to children's later language and literacy abilities. Indeed, in the current study we observed that parents who reported more frequent chapter book reading in the home had children who used more extended discourse during chapter book reading than parents who reported less chapter book reading in the home,  $r(32) = .37, p < .05$ . Therefore, a next step could be to examine how this relationship contributes to children's later language abilities.

Third, properties of each book may have resulted in differences in the quality and quantity of non-text discussion over and above the differences that stemmed from the differences we attributed to genre. Specifically, we chose the picture book *Tyrannosaurus drip* because it is a popular book in the UK and would be unknown to American children, and because several aspects of the story plot provided opportunities for parents and children to engage in extended discourse discussions. However, this book also included several repeated rhyming phrases. Parents therefore may have favored continuously reading the text instead of breaking the rhythm of the text to engage in non-text discussion, which could explain in part why we did not observe significant differences in parents' extended discourse between picture and chapter books. Future replications of this research question should consider how properties of the text (e.g., rhyming) may limit the frequency and amount of non-text discussion. Concerning the chapter book, we only asked parents to read the first chapter of *The mouse and the motorcycle*, which may have resulted in fewer non-text discussions because this excerpt did not contain all of the story elements (e.g., conflict or resolution).

### **Conclusion**

The recent press citing increased chapter book sales among preschool parents left open the question of whether or not chapter book reading is beneficial for preschool children.

We add empirical support to this important question; in our sample, 26% of parents reported reading chapter books with their children once or twice a week and 18% of parents reported reading chapter books almost daily, suggesting that among parents such as those in our sample, chapter book reading with preschoolers does occur. Our comparison of parent and child speech between these two genres resulted in two important findings. First, picture books elicited greater quantity and quality of children's non-text talk compared to chapter books, suggesting that picture books may give children more opportunities to practice using challenging academic language before beginning formal schooling. Second, by taking into account children's current language ability, the results demonstrated that chapter books allow for children with higher narrative skills to contribute more to non-text discussion than children with lower narrative skills. Parents may believe that exposing their children to more difficult texts is a way to improve their language skills, but based on these findings, it is important for parents to understand that their child's current ability level may influence what they take away from these more difficult texts.

From previous studies on extended discourse, we know that these types of discussions facilitate children's language development, and combined with the findings from this study, we can conclude that certain book genres promote more of this talk than others. Our study suggests that while picture books appear overall to facilitate more non-text talk for children, it is not the case that chapter books prohibit these discussions. Rather, it seems that for some children with the requisite language skills, chapter books can serve as an excellent supplement to picture books during the preschool years but should not completely take the place of picture book reading. Together, this implies that parents should take into account their child's language ability when choosing books to read with preschool children in order to maximize the benefits of non-text discussion.

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## Notes

1. *Tyrannosaurus drip* is based on the ugly duckling story in which a duckbill dinosaur egg accidentally lands in a tyrannosaurus nest. When he hatches, he realizes he is not like his sisters, who constantly make fun of him for being smaller and weaker. The duckbill dinosaur eventually figures out his true identity and is united with his family. *The mouse and the motorcycle* tells the story of Keith and his family who are on vacation in California. In chapter 1, Keith and his family arrive at their hotel room in the Mountain View Inn where Ralph the mouse is already waiting for them.
2. Non-text word tokens that also appeared in the text were still counted (e.g., if a parent read, '*In a swamp beside a river ...*' and then asked the child, '*where is the swamp?*', *swamp* would still be included as a non-text word token.

3. Child age did not relate to any speech characteristic measured in the present study and thus is not controlled for in the analysis.
4. Though participants in Sénéchal, Cornell and Broda's (1995) study were between the ages of 9 and 27 months which may prevent direct comparisons between the two studies

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