Reading Horizons: A Journal of Literacy and Language Arts

Volume 40
Issue 2 *November/December 1999*

Article 3

12-1-1999

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Linda E. Martin
Ball State University

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ABSTRACT

Mothers use prosody to engage children during book reading. Thus, prosody may contribute to children's literacy. The purpose of this study was to describe how twenty-five mothers across children's age groups (6-month olds, 12-month-olds, 18-month-olds, 24-month-olds, and 4-year-olds) used prosody, specifically pitch and stress variations, while reading with their children. Common speech samples from the readings of two different texts (narrative and expository) were analyzed. In addition, the mothers were questioned about their use of expressive language while reading. Patterns from the data showed that the mothers of the 6-month-olds did not vary their speech as often. They used the book reading event to teach basic book reading concepts and to play. The narrative text showed the use of more expressive language. The mothers' intent was to guide children's understanding of the complexities of the story. All the mothers used pitch and stress in conjunction with other book reading strategies to scaffold the texts for their children.

Caregivers use prosody, the rhythm and melody of the voice, to engage and stimulate children to participate in book reading. For example, caregivers, and in this case mothers, may use prosody to emphasize important concepts in book language (print and illustrations) that may otherwise be difficult for children. Prosody can also be used to dramatize a character's part in a story so children can live the events with characters.

The prosodic features of the voice are among the first linguistic variations to be learned by children that guides oral language acquisition

(Buss, 1984; Fernald, 1984; Fernald and Simon, 1984; Gerken and McIntosh, 1993; Lewkowicz, 1996; Mandel, Jusczyk, and Nelson, 1994). Researchers also contend that the prosodic features of the voice may guide children's knowledge of how language works in books, and ultimately, contribute to children's literacy development (Altwerger, Diehl-Faxon, and Dockstader-Anderson, 1985; Buss, 1984; Dowhower, 1991; Schreiber, 1980; 1987; 1991; Snow, Coots, and Smith, 1982). Therefore, the purpose of this study is to describe how mothers use prosody to add meaning to text for their children during book reading events.

Theoretical frame

Vygotsky (1986)described how caregivers scaffold information for children from a social-cultural perspective. From these rich social interactions, caregivers create "zones of proximal development" where children can easily connect their world experiences to new information. Prosody is one of the tools that caregivers use to familiarize children to the language of texts, to draw children's attention to new concepts in texts, and to develop children's understanding of how stories develop.

Prosody effects language (oral and print) development

Marked prosodic variations are a characteristic of "motherese," a simplified speech register used by caregivers to guide children's oral and written language development (Dowhower, 1991). Mothers may use a higher pitch, stress words, or use a slower tempo to enhance children's understanding of how language works. In the process, children are able to focus on important language concepts, thus assisting them in understanding syntax. Hence, mothers' use of prosody increases infants' communication, engages their attention, stimulates speech processing, and the comprehension of language (Fernald, Taeschner, Dunn, and Papousek, DeBoysson-Bardies, and Fukui, 1989; Nelson, Hirsh-Pasek, Jusczyk, and Cassidy, 1989).

Caregivers have also been observed using prosodic variations to emphasize concepts while telling stories to young children using books. Fernald and Mazzie (1991) compared how 18 mothers changed their speech patterns while telling stories to 14-month-olds and to adults. To guide the story telling, a picture book was used in which six target items were the focus of attention. In the infant-directed story tellings, the mothers consistently used exaggerated pitch tones with target words

from the text, whereas the adult-directed story tellings, the mothers' prosodic emphasis varied. Fernald and Mazzie (1991) believed that these marked pitch variations may not only facilitate speech processing for children, but highlight important concepts during book reading. It appears that caregivers not only use prosody to model for children how language sounds within the contexts of books but also to teach children about print.

Altwerger et al. (1985) observed two mothers as they read to their twenty-three month-old children over a six-month period. Only one of those mothers was observed using prosody to relay meaning to her child. While reading *Over in the Meadow* (Langstaff, 1957), the mother read, "OVER in the meadow where the tall grass grew lived an old mother red fox and her little foxes — too." Altwerger et al. (1985) concluded that the rising intonations suggest that more information follows. As repeated readings familiarize the child with the rhythm of the story, the rising intonations invite the child to participate. Although Fernald and Mazzie (1991), and Altwerger et al. (1985) contribute to our current understanding of mothers' use of prosody during book sharing with children, the nature of the role of prosody in book sharing transactions is limited to these two book sharing events, especially across developmental levels.

The prosodic features of interest in this study were limited to pitch, the perceived rise and fall of the voice, and stress, the perceived intensity of sound. Stress may be used to emphasize particular words or phrases. While reading *The Three Little Pigs*, mothers may read "Little pig, little pig, LET ME IN!" Stressing the last part of the sentence focuses the child's attention to what the wolf wants from the pigs. Perceived pitch variations also affect the way book language is understood. While reading *The Three Little Pigs*, mothers may read, "Little pig, little pig, LET ME IN!" in a low, gruff voice to dramatize the wolf's part in the story. Then the mother would use a higher pitch to act out the part of the pigs "NOT by the hair of my chinny, chin chin." Using the prosodic features of the voice adds depth to the meaning of this text for children. They not only understand important concepts, but the children are able to feel what characters feel.

The following questions guided this research project: a) How do mothers use pitch and stress, two prominent features of prosody, while

reading to children?; b) Does mothers' use of the prosodic features, pitch and stress, vary across children's ages during book reading?

METHODS/PROCEDURES

Twenty-five mother/child pairs from a large university in the Rocky Mountain region volunteered to participate in the study. The mothers were students from varied disciplines across the campus. Reading was a regular activity in their daily lives. Mothers' ages ranged from 21 to 29 years, with the exception of three in their early 30's. The mother/child pairs were divided into five comparison groups according to the ages of the children who were 6-, 12-, 18-, 24-month olds (plus or minus two months), and 4-year-olds (plus or minus 4 months) with five mother/child pairs in each group. Six-month intervals between the children's ages made it possible to systematically describe how mothers' use of prosody while reading to children may change from the early stages of language and literacy development. Observations of mothers with 4-year-olds demonstrated the changes that occur into the preschool years. Mothers were identified by use of a numeric code. For example, mothers of 6-month-olds were identified from 6a through 6e.

The book readings were conducted in a room equipped with a rocking chair and a small table where a specific book was placed for each book reading event. A video camera with audio equipment was mounted on the wall overlooking the rocking chair which recorded the book sharing events. To record aspects of mothers' voice patterns, a separate portable transmitting microphone was plugged into a wireless microphone transmitter that could not be viewed by the children. Data from the transmitter were recorded via a tape recorder in the next room. The mothers were instructed at each session to "share the book with your child as you would at home."

All twenty-five mothers participated in a pilot study to refine the procedures and to test the quality of the laboratory setting. Once the pilot study was completed and procedures were refined, three different book sharing events were scheduled for each mother/child pair within a two-week period. To assure that the texts selected for the book sharing events were typical selections that mothers in this study would make, the mothers selected texts that were easily accessible, inexpensive, and told stories. Hence, an effort was made to select these types of texts for the

three book sharing events. The three texts were not familiar to the mothers.

Unknown to the mothers, the first book reading event was used to reduce novelty effects, and the last two were used for analyses. Texts used in the two analyzed book sharing events were a narrative text, *One Teddy Bear is Enough*! by Ginnie Hofmann, and an expository text, *Farm Animals* by Hans Helweg. *One Teddy Bear is Enough*! is about a little boy, Andy, his teddy bear, Arthur, and a new teddy bear, Max. Arthur is jealous because of the attention Andy gives Max. While Andy is taking both bears for a ride in his wagon, Arthur pushes Max out of the wagon to get rid of him. In the end, Arthur and Andy find Max, and Arthur learns to share Andy's attention. *Farm Animals* describes animals that are found on a farm. The illustrations in both texts support the print. During the book readings, these texts were counterbalanced to control for potential ordering and text effects.

For analysis, an effort was made to find common speech samples of the printed text used by all or most of the mothers. Common samples of printed text were limited, because the mothers' texts were significantly different from the print in both texts. As a result, two phrases from each text were chosen for prosodic analyses: "Arthur pushed Max" and "Where's Max?" from *One Teddy Bear is Enough*!, and "baby goats" and "roosters crow" from *Farm Animals.* A custom programmed digital sound spectrograph was used in the analysis to describe the mothers' speech patterns. Data collection for mothers' use of pitch and stress while reading these samples of printed text to their children is described below.

Within one week of the end of the book readings, the mothers were invited back to watch the video of their book reading events. Periodically, the video was stopped and the mothers were asked questions about why and how they were using prosody to read with their children. Clips from these interviews are added in the results section.

Pitch

Perceived pitch variations in the mothers' voices were measured by first determining the mean fundamental frequency (Fo) of their voices. The fundamental frequency (Fo), the first harmonic of the vocal spectrum, reflects the number of glottal cycles per second of laryngeal function during phonation (Borden and Harris, 1984). The mothers' mean

fundamental frequency was derived from five unstressed, uninflected syllables judged to be representative of the habitual pitch of the individual's conversational speaking voice. These data were taken from taped interviews with the mothers. In this report, mothers' habitual pitch is referred to as the Baseline Habitual/Conversational Pitch (bl). The manner in which mothers used pitch, the perceived frequency of sound measured in Hertz (Hz), was determined by comparing mothers' pitch variations while reading to their children to their Baseline Habitual/Conversational Pitch (bl).

How these mothers varied pitch while reading the texts was demonstrated the following ways. First, to compare mothers' use of pitch across children's age groups, one syllable from each sample was used: "roo" and "ba" from *Farm Animals*, and "Max" and "pushed" from *One Teddy Bear is Enough*! Two measurements were collected from each syllable: a) the beginning syllabic frequency (bsf); and b) the peak syllabic frequency (psf) or maximum change in frequency variation. Once these basic measurements were taken, the pitch elevation difference (ped) was calculated to describe the difference between the mothers' baseline habitual/conversational pitch (bl) and the peak syllabic frequency (psf) within the text sample. Refer to Table 1. Second, spectrographic data showed how selected mothers within and across text samples used pitch to scaffold these text samples for their children. Refer to Figures 1-4.

Stress

Relative syllabic stress, determined by the spectrograph measured the intensity of the vowel peak of a syllable in decibels (dB) from an amplitude contour display, and syllable duration measured in milliseconds (Ms) (Borden and Harris, 1984). The decibel is a ratio, a comparison of the sound in question with a reference sound. More than one syllable was needed from each text sample to establish a standard by which to judge how these mothers stressed syllables and words while reading (Borden and Harris, 1984). Group comparisons of how mothers stressed syllables within text samples across children's age groups was not possible because many text samples were dropped as mothers altered text, and because the distance of the microphone that was secured to the garment on each mothers' shoulder varied. Consequently, the spectrographic data

demonstrated how these mothers used stress to scaffold text for their children. Refer to Figures 1-4.

RESULTS

This study described how mothers use pitch and stress while reading with young children across ages. The results showed that all of the mothers in this study used pitch variations and stress during shared reading with their children. Furthermore, how they used these prosodic features varied greatly, even within the mother/child groups. Nevertheless, a visual inspection of the descriptive data for mothers' pitch variations in Table 1 revealed patterns across samples and texts: a) Mothers' pitch did not vary within the text samples 46 out of 98 total reading times (47%); b) mothers of the 6-month-olds accounted for 33% of those times; c) mothers were more apt to not vary pitch (31%) while reading "goat" from *Farm Animals* and "pushed" from *One Teddy Bear Is Enough!;* d) mothers used more pitch variations (83%) while reading the sample "Max," e) mothers used the lowest pitch elevations to read "goat." In addition to the observed patterns, mother 6a made the highest pitch change (830 Hz) while reading "Max," a difference of 640 Hz from her baseline habitual/conversation pitch (bl), and five mothers' pitch dropped lower than their bl while reading "goats" (6c, 6d, 63, and 12d), and "pushed" (6c).

To show mothers' varied use of pitch and stress across as well as within children's age groups, two samples from each text were used. Two mothers of 24-month-olds were part of each sampling of text to show how mothers within children's age groups varied their pitch and stress. Spectrographic data of the text samples are shown in Figures 1-4. A description of these samples follow with mothers' book reading behaviors and comments that may explain why specific prosodic variations were used to scaffold text for their children and how prosody was used with other book reading strategies.

Table 1

A Description of Mothers' Pitch Variations by Text and Text Sample

Farm Animals

	Text Sample (roo)				Text Sample (goat)		
Mother	bl	bsf	psf	ped	bsf	psf	ped
6a	190	195	195	005	165	200	010
6b	200	200	225	025	340	340	140
6c	215	260	260	045	200	200	015
6d	200	170	205	005	170	170	030
6e	180	270	340	160	175	170	010
12a	220	260	360	140	255	255	035
12b	210	250	250	040	305	220	095
12c	200	230	375	175	200	200	000
12d	190	215	300	110	170	170	020
12e	195	205	395	200	215	355	160
18a	190	210	270	080	315	315	125
18b	185	230	230	045	240	385	200
18c	195	--	--	--	225	325	130
18d	230	265	365	135	275	275	045
18e	190	585	710	520	175	270	080
24a	205	235	235	030	225	460	255
24b	170	220	315	145	175	175	005
24c	230	225	325	095	245	245	015
24d	195	245	200	050	170	220	025
24e	190	215	375	185	200	200	010
4a	175	225	270	059	180	180	005
4b	190	200	240	050	210	210	020
4c	195	170	220	025	210	210	015
4d	175	180	245	070	185	185	010
4e	225	195	295	070	230	230	005

Text: One teddy bear is enough!

Sample: Where's Max? Mothers across age groups used the most dramatic pitch variations while reading the sample "Where's Max?" Refer to Figure 1. The sentence ended a question which usually elevates pitch. Nevertheless, the mothers chose to elevate pitch different ways while reading this sample which brought attention to the fact that Max was gone. Refer to Figure 1.

Table 1 Cont.

One Teddy Bear Is Enough!

	Text Sample (pushed)				Text Sample (Max)		
Mother	bl	bsf	psf	ped	bsf	psf	ped
6a	190	215	215	025	375	830	640
6b	200	270	270	070	360	360	160
6c	215	195	195	020	355	355	140
6d	200	270	270	070	395	500	300
6e	180	400	400	220	310	310	130
12a	220	515	625	405	405	680	460
12b	210	245	245	035	410	670	460
12c	200	280	280	080	345	405	205
12d	190	300	380	190	380	585	395
12e	195	350	350	155	--	--	--
18a	190	235	235	045	255	545	355
18b	185	205	205	020	575	625	440
18c	195	300	300	105	325	625	430
18d	230	315	315	085	515	695	465
18e	190	320	320	130	455	730	540
24a	205	250	250	045	350	585	380
24b	170	260	260	090	290	465	295
24c	230	495	550	320	450	595	365
24d	195	410	480	285	410	540	345
24e	190	270	270	080	480	655	465
4a	175	220	220	045	310	310	135
4b	190	495	585	395	375	580	390
4c	195	210	210	015	250	370	175
4d	175	215	195	040	335	560	385
4e	225	335	335	110	355	485	260

Note. bl=Baseline Habitual/Conversational Pitch; bsf=Beginning Syllabic Frequency; psf=Peak Syllabic Frequency; ped=Pitch Elevation Difference. The dash represents missing data.

Mother 24b (Bl=170 Hz) slightly changed pitch in the word "Where's" (220 Hz to 270 Hz). The word "Max" was started at 290 Hz, elevated to 465 Hz, and lowered to 245 Hz. On the other hand, the word "Where's" (-17 dB) was stressed and the word "Max" was elongated (.69 Ms). In contrast, mother 24e (bl=190 Hz) started the word "Where's" at 364 Hz, then quickly dropped to 320 Hz before elevating the pitch to 470

Hz to end the word. The child's attention was drawn to the word "Max" by a continual high pitch that started at 480 Hz, peaked on the phoneme "a" (655 Hz), and then continued at 580 Hz as the word was elongated before ending at 375 Hz. Mother 24e stressed both words "Where's (-23 dB) and "Max" (-26 dB) similarly. The fact that mother 24e's bl is 20 Hz higher than mother 24b may explain why mother 24e consistently used a higher pitch while reading the sample. However, this does not explain why mother 24e dramatically changed pitch and read both words intensely. When asked about this particular frame of the story, mother 24e replied, "I wanted her to feel like this is more.than a bunch of words ... that the story has feelings in it ... how sad it was that the bear was lost."

Mother 12b (bl=210 Hz) began the sample "Max" at 245 Hz and peaked at 670 Hz before finishing at 305 Hz. Mother 12b also stressed the word "Where's" by elongating the word and emphasizing the "s" in the word before finishing the sentence. In contrast, mother 18a (bl=230 Hz) focused her child's attention by gasping, pointing to the illustration and stating, "Look up here John, look, look," and then began reading at 530 Hz which elevated to 665 Hz on the word "Where's." The high pitch finished the word "Max" at 660 Hz. The word "Where's" was stressed (-17 dB) before reading "Max." Refer to Figure 1.

Sample: Arthur pushed Max. Refer to Figure 2. Mother 24c (bl=230 Hz) began the word "Arthur" at a higher pitch (315 Hz) then moved quickly to 245 Hz, peaked at 325 Hz and moved back to 215 Hz. The word "pushed," was raised again to 550 Hz. A high pitch was maintained for the word "Max" (405 Hz then 350 Hz). Mother 24c emphasized the "Ar" (-19 dB) in Arthur and the word "pushed" (-20 dB). More time was spent on the word "pushed" (.43 Ms) which brought attention to what Arthur had done to Max. After reading, mother 24c pointed to the picture and stated, "See that? He pushed him." This statement reinforced the reading of the event in the text sample. On the other hand, mother 24a (bl=205 Hz) began the text sample by pointing to draw the child's attention to the event and explained, "Oooooh, what happened? He pushed him out!" Mother 24a emphasized the words "Arthur" (from 260 Hz, 380 Hz to 250 Hz) and "Max" (from 275 Hz to 310 Hz). These two words were also clearly stressed. Refer to Figure 2. Mother 24a stated, "I explained what I read first. He picked out that the

bear was being pushed out of the wagon and so... I went on reading because he was still with me."

Figure 1. Mothers' perceived pitch and stress variations across children's ages while reading the story: *One Teddy Bear Is Enough!*; Sample: Where's Max?

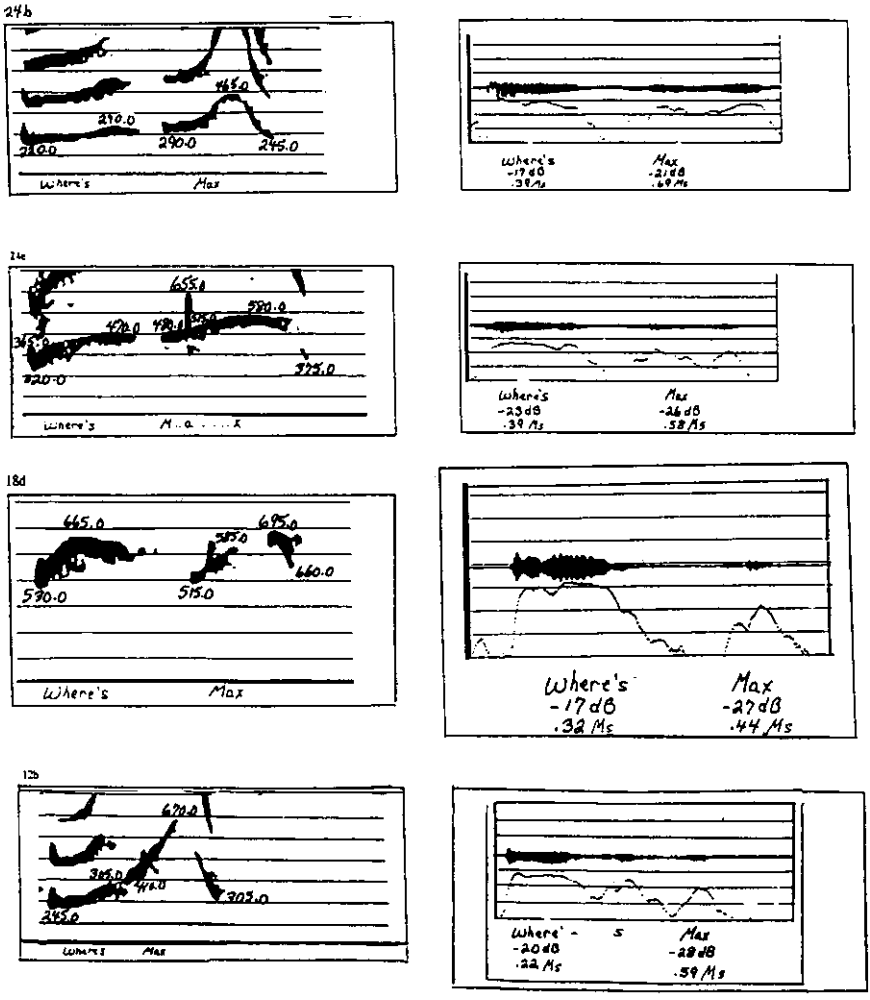
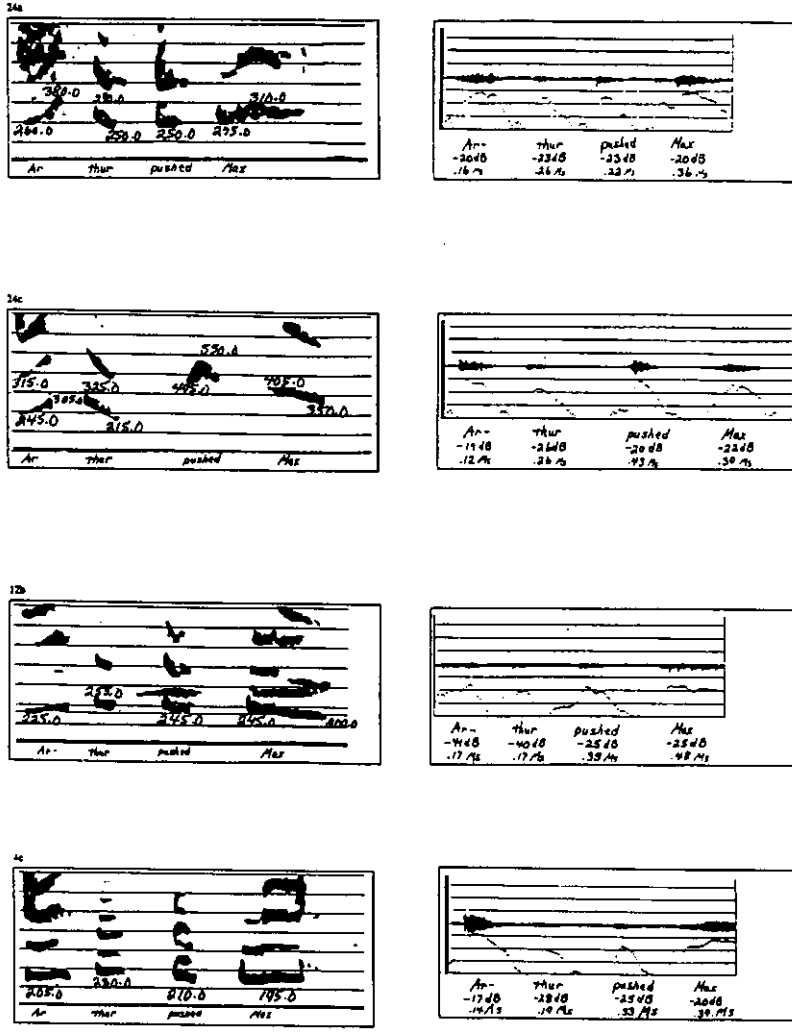


Figure 2. Mothers' perceived pitch and stress variations across children's ages while reading the story: *One Teddy Bear Is Enough!*; Sample: Arthur pushed Max.



The text: Farm animals

Sample: Roosters crow. Refer to Figure 3. Mother 24c (bl=230 Hz) started the text sample at a lower pitch (225 Hz) than the baseline habitual/conversational pitch and never exceeded 355 Hz which began the word "crow." Mother 24c stressed the syllable "roo" (-16dB) and "crow" (-20 dB) and spent time on the word "crow" (.70 Ms). The text sample was ended with the mother imitating a rooster's crow. Mother 24e (bl=190 Hz) began the sample at 215 Hz, not much above her baseline habitual/conversational pitch, and peaked on the syllable "roo" (375 Hz). The text sample ended at 20 Hz below her baseline habitual/conversational pitch. Mother 24e stressed "roo" (-16 dB) and spent more time on the remainder of the sample (.91 Ms total). The text sample was ended with the mother pointing at the roosters and saying, "Those are roosters."

Mother 12c (bl=200 Hz) started the word "roosters" at 235 Hz (below the baseline habitual/conversational pitch), raised the pitch to 375 Hz and ended at 175 Hz. The word "crow" was read similarly (219 Hz, to 290 Hz, and ended at 205 Hz). Mother 12c stressed the word "crow" (-20 dB). In addition, the "c" was isolated which allowed more time (.55 Ms) for the child to focus on the word. The text sample was ended by the mother pointing and saying, "Rooster, rooster." Mother 6c (bl=215 Hz) dropped below the baseline habitual/conversational pitch twice while reading the text sample on the syllables "sters" and "crow." (both time at 190 Hz). The syllables "roo" and "crow" were stressed (both –23 dB), and the "c" was isolated from the rest of the word. As the text sample was read, the mother pointed to the rooster and crowed. Mother 4e (bl=225 Hz) never raised the pitch above 295 Hz while reading this text sample. More stress was put on the syllable "roo" (-16 dB) and more time was spent on the syllables "sters" (.40 Ms) and "crow" (.59 Ms). Mother 4e also stressed the phoneme "c" in crow and made a crowing sound to demonstrate a rooster. The child mimicked the sound.

Sample: Baby goats. Refer to Figure 4. Mother 24b (bl=170 Hz) emphasized the syllable "by" in "baby" by sliding the pitch to 365 Hz to begin the syllable then quickly sliding back to 260 Hz. Mother 24b did not stress any syllable in this sample, but drew out the last word "goats" (.43 Ms). On the other hand, Mother 24e (bl=190 Hz) pointed to emphasize each syllable. To read the word "baby," she began at 295 Hz, over 100 Hz above her baseline habitual/conversational pitch. At one point,

Mother 24e raised the pitch to 415 Hz, then ended the sample at 200 Hz on the word "goats." The word "baby" was stressed (-19 dB for both syllables) and the word "goats" was elongated (.39 Ms).

Figure 3. Mothers' perceived pitch and stress variations across children's ages while reading the story: *Farm Animals.* Sample: Roosters Crow.

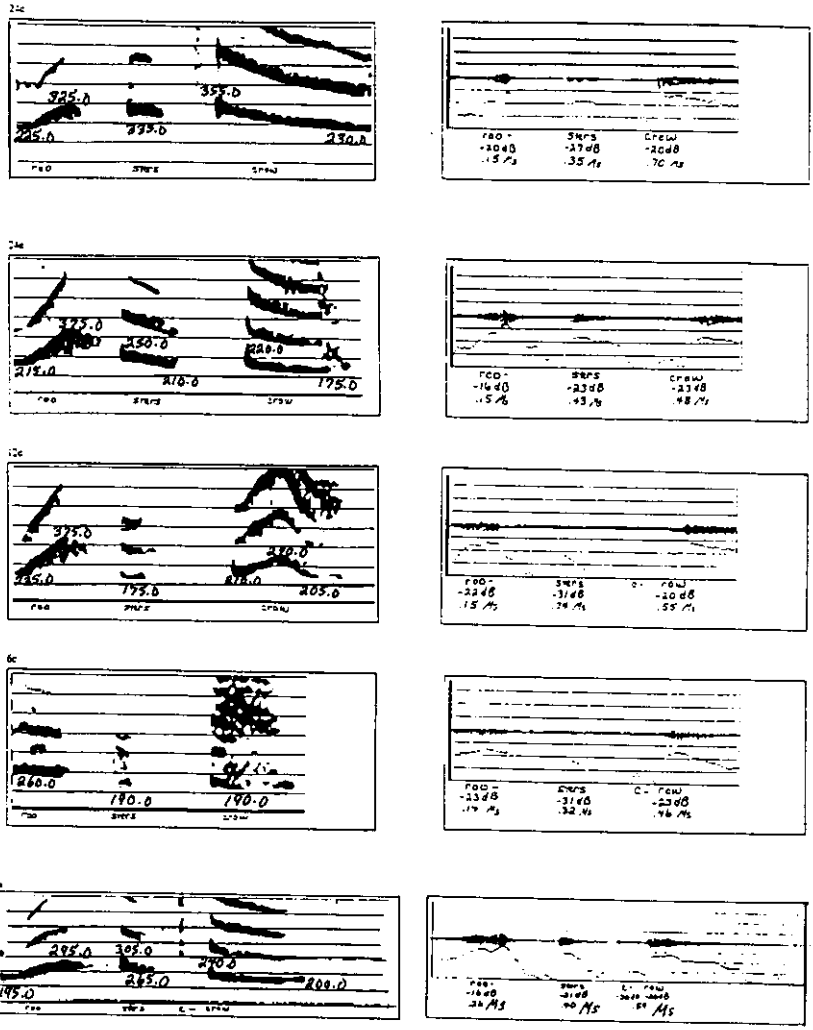
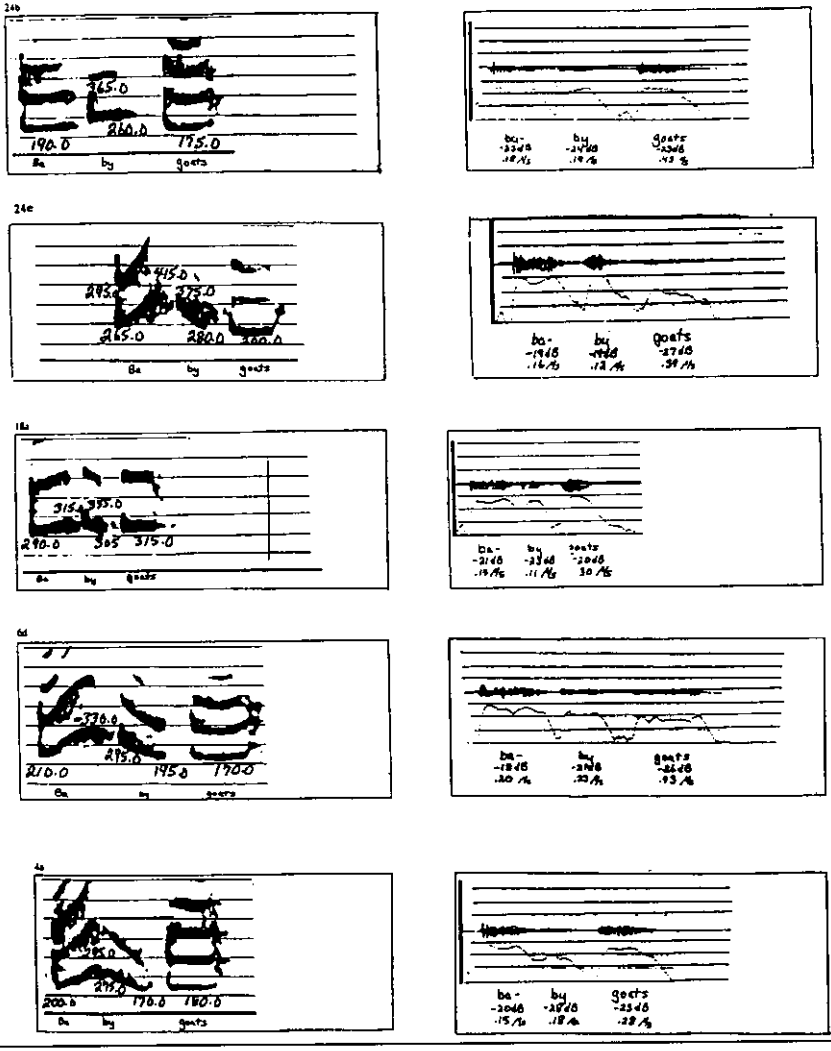


Figure 4. Mothers' perceived pitch and stress variations across children's ages while reading the story: *Farm Animals.* Sample: Baby Goats.



Mother 18a (bl=190 Hz) also emphasized the word "baby." At one point, the pitch was raised to 355 Hz. The word "goats" was ended at 315 Hz. Mother 18a gave each syllable of the text sample approximately the same amount of stress, but drew out the word "goats" (.30 Ms). Mother 6d (bl=200 Hz) raised the pitch to 330 Hz, but ended "goats" on 170 Hz, 30 Hz below the baseline habitual/conversational pitch. Two words were emphasized by stressing the syllables "ba" (-18 dB) and "by" (-21 dB), and drawing out the word "goats" (.43 Ms). Mother 4a (bl=175 Hz) used an elevated pitch on the syllable "ba" (295 Hz) and ended the text sample at 180 Hz, near the baseline habitual conversational pitch. The syllable "ba" (-20) was stressed, and more time was spent on the word "goats" (.28 Ms).

DISCUSSION

This study observed mothers' use of two prosodic features, pitch and stress, during two book reading events with their children. Analysis of common text samples across texts and children's age groups revealed patterns in how the mothers used pitch and stress to scaffold book language for their children.

First, patterns in mothers' pitch changes (Figure 1) showed that mothers did not vary pitch 47% of the time across text samples. This appeared most often with the sample "goat" from *Farm Animals* and "pushed" from *One Teddy bear is Enough!*. Mothers of 6-month-olds accounted for most of those times. Most of these mothers used the book reading event to play. Mother 6a stated, "I was playing with her more than anything. I mean she was grabbing for the book. She just wanted to interact. Playing with her made her happy." Besides pitch changes, mothers of the 6-month-olds also used more pointing, labeling, sounding, imitating, and brief discussions about specific concepts in the illustrations that engaged their children during book reading. Mother 6d explained, "Yes, I just decided to point. I pointed to the goats (in *Farm Animals*) and I said baaaaa and I kept pointing and she looked as I pointed. I think she was really interested when I did that." Playful behavior with infants during book reading was also observed by Van Kleeck, Alexander, Vigil, Templeton (1996), although the purpose for the behaviors was not identified as play. In this study, it appeared that the purpose of the book reading event for the mothers of these infants

was to guide their children's understanding of basic text concepts, and show their children the pleasure of the book reading experience. Using pitch variations was one of many ways that these mothers chose to do this.

A second pattern showed that mothers across children's age groups made the highest pitch changes on the word "Max" in *One Teddy bear is Enough*! The narrative involves complex issues such as learning to share and making new friends, issues that are a part of children's experiences. Mother 12a states, "That's just what the story says to me too. He's understanding that the story, well, that there are emotions in the story and important things to think about." These data support Altwerger's et al. (1985) findings in that the mothers in this study also used prosodic variations to personalize the book sharing event with their children. However, Altweger et al. (1985) reported only one of the two mothers in their study using prosodic variations to scaffold text for the child. According to the findings in this report, all the mothers used pitch and stress at various degrees to engage their children while reading.

The mothers in this study across children's age groups and texts used a variety of strategies with pitch and stress variations to scaffold text for their children. Pointing, labeling and extended explanations about text concepts were noted as being used the most often in conjunction with prosodic variations. For example, to show how Arthur pushed Max out of the wagon in *One Teddy Bear is Enough*!, mothers tended to use the illustration to demonstrate just what Arthur was doing to Max. Mother 12c pointed to the picture and said with emotion "Look, they're out for a ride in a wagon and look, Arthur pushed Max out of the wagon!" Later, mother 12c states, "I started to tell the story with the picture." Similar strategies were also used with the expository text, *Farm Animals*. Mother 4d pointed to the rooster and say? (Cock-a-doodle-doo!)" The mother continued the text frame with pointing, questions with roosters, and demonstrations. Mother 4d explained later that it was important to show differences between the animals in the book. Pointing, stressing specific words, and explaining concepts in the text accomplished the task.

For some time, researchers have described pointing, labeling, and extended explanations beyond the printed text as important early book reading strategies to scaffold text for children (e.g., Ninio and Bruner, 1978; Altwerger at al., 1985; van Kleeck et al., 1996). Descriptions of

how prosodic features are also used to scaffold book language for children was limited to Altwerger et al. (1985) and Fernald and Mazzie (1991). Of these two studies, Altwerger et al. (1985) described how one mother used pitch and stress variations in conjunction with explanations during book reading. In this study, mothers were described using various strategies with prosody during book reading from infancy to the preschool years. In addition, the mothers were asked to reflect on their reasons for using these strategies. The mothers appeared to have clear purposes for the strategies (which included pitch and stress) to scaffold text for their children.

Implications for research

This study has several limitations that lead to future research. To understand how mothers' use of pitch and stress may change across children's age groups, larger samples of mother/child pairs are needed. Observing mothers reading to children at home rather than the university setting may reveal more in-depth information about how prosodic features are used during early book reading. In addition, a longitudinal study where mothers are observed reading with their children over time may reveal how mothers change their uses of prosody as children mature. Repeated readings of the same text may show a difference in the way mothers across children's age groups use prosody to share books over time. The mother/child pairs in this study all came from one university setting. Reading to their children was a part of these mothers' routines. Observing other groups from different backgrounds, e.g., socioeconomic groups, culture, should be explored. Many fathers read with their children. Comparing how fathers and mothers use prosody while reading with children should be observed. Furthermore, the data in this report are dependent upon the readings of two specific texts selected for this study. Readings of other texts may produce different results.

Implications for classroom teachers

Young children's early book language development is guided by caregivers' use of many strategies, which include, the prosodic features of the voice. Therefore, it is important for teachers to understand how their use of expressive language in conjunction with other book reading strategies guides children's understanding of the complexities of printed text (Holdaway, 1979; Dowhower, 1991; Schreiber, 1980; 1987; 1991;

Zutell and Rasinski, 1991). As the mothers in this study, teachers should reflect on several issues to prepare to read to students; a) their purposes for reading specific texts to their students, b) what the students know about the concepts in the texts, and c) how they plan and organize the readings of the texts to guide the children's understanding. Using expressive language to guide children's understanding of a story or important concepts should be a part of their planning and organization of book reading events.

CONCLUSION

This report showed how mothers across children's age groups used their prosodic features, pitch and stress, in conjunction with other reading strategies to scaffold book language for children. Pitch and stress variations aided the mothers as they focused their children's attention on important concepts and events in the books, and enhanced the meaning of the two different texts for the children. Thus, it is important to consider the prosodic features of the voice as tools to guide children's literacy development.

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Linda E. Martin is a faculty member in the Department of Elementary Education at Ball State University, in Muncie Indiana.