Young Children's Cognitive Engagement during Classroom Book Reading: Differences According to Book, Text Genre, and Story Format

Eleni Moschovaki
School Adviser, Greece

Sara Meadows
University of Bristol, United Kingdom

Abstract

This study examined young children's cognitive engagement during classroom book reading with different types of books in Greek kindergarten schools. Twenty teachers read four books—two fiction (familiar/unfamiliar story format) and two information books (expository/narrative text). As expected, children's and teachers' cognitive engagement was highly correlated. Overall, most group discussion was of low cognitive demand, focusing on text recall and labeling. Information books and expository texts prompted more high cognitive demand discussion, while fiction books and narrative texts of information books prompted more low cognitive demand discussion. No differences on the cognitive level of discussion between the familiar and unfamiliar fiction books were found. The outcomes are discussed in terms of young children's development of representational abilities.

Introduction

Book reading with young children has been the focus of much research. The majority of such research has focused on the development of early literacy concepts, mainly related to the decoding aspect of print and the development of oral language skills (see reviews in Scarborough & Dorbich, 1994; Bus, Van Ijzendoorn, & Pellegrini, 1995; Blok, 1999). Little research exists on book reading interaction in relation to the cognitive engagement of the participants. Cognitive engagement refers to the thinking skills that a participant activates in order to understand the text and successfully participate during a discussion. Yet children's ability in reading and listening comprehension at the end of first grade was predicted by their ability to define words, to classify familiar concepts, to form analogies, and to repeat written-language-like sentences at preschool age. Such measures are related to skillful use of decontextualized language (Mason, 1992).

This study's conceptual framework was based on the distancing model developed by Blank (1973) and Sigel and McGillicuddy-Delisi (1984). According to this model, verbal interaction that demands that children mentally represent a situation separately from the ongoing observable field assists the development and use of certain representational abilities. Representational abilities in this study were defined as the verbal strategies that both children and their teacher engage in when making predictions, analyzing situations or events, and interpreting characters' emotions and actions. The use of the specific verbal strategies during interactive discussion stretches child and adult common understanding in ways that invoke the child's increasing understanding of such discussion. As the child becomes more involved, he or she participates more actively (Rogoff, 1990). Such participation prompts the development of thinking skills that help children engage successfully in abstract thinking (Blank, 1973) or what Donaldson (1978) calls disembedded thinking.

However, some children have not been socialized in this type of discussion. Their verbal experiences are confined to the process of doing things, and thus the nonverbal context helps them interpret a situation. In addition, young children's concentration spans are limited when they have to attend to language alone (Donaldson, 1978); therefore, some of the difficulties that children face during classroom reading depend on the book presentation and the kinds of experiences they bring from home. If children do not have access to the illustrations, the degree

of difficulty of the task increases, because children have to concentrate on language alone for prolonged periods of time. Additionally, children might be unfamiliar with discussion that demands that they analyze, predict, and reason, and therefore they may misinterpret the questions teachers pose to them.

The objectives of this study were twofold. First, this study examined the existing relationships between teachers' and children's cognitive engagement during classroom book reading. Two strands of research on classroom reading exist. The first strand refers to descriptive studies of classroom interaction and teachers' book reading styles (Cochran-Smith, 1984; Roser & Martinez, 1985; Mason, Peterman, & Kerr, 1989; Teale, Martinez, & Glass, 1989; Martinez & Teale, 1993; Dickinson & Smith, 1994; Shine & Roser, 1999). Such research has described either the focus of children's and teachers' talk (story elements, episodes), the type of information the group discussed (text, picture, personal association, etc.), or the instructional strategies (elicits, invites, reviews) used by teachers.

The second strand refers to a number of intervention studies related to the quality of classroom book reading interaction with the purpose of improving young children's language development and text comprehension and developing their print awareness (McCormick & Mason, 1986, 1989; Karweit, 1994; Kertoy, 1994; Morrow, 1984, 1990; Valdez-Menchaca & Whitehurst, 1992; Whitehurst, Arnold, Epstein, Angell, Smith, & Fischel, 1994; Whitehurst, Epstein, Angell, Payne, Crone, & Fischel, 1994; Lonigan & Whitehurst, 1998; Reese & Cox, 1999; Hargrave & Sénéchal, 2000).

The majority of these studies have not examined the quality of discussion in terms of the thinking skills that young children use. Dickinson and Smith (1994) are among those who analyzed group discussions in such terms. Among their findings, talk between teachers and children before, after, and during reading was significantly correlated. In particular, they found that the more group talk took place, the more cognitively challenging were the discussion and talk related to task management. Danis, Bernard, and Leproux (2000) have also found a constant reciprocal adaptation between the level of abstraction that the parent expresses and the level of abstraction the child adopts and vice versa during book reading. It was therefore expected in this study that teachers' and children's cognitive engagement would be interrelated. In addition, it was expected that a fine-grained analysis during book reading discussions would give the "flavor" of classroom interaction during such sessions.

Second, this study examined differences in young children's cognitive engagement across different types of books. Research on home book reading with preschool-age children has revealed more low cognitive demand discussion taking place with fiction books in contrast to information books, where interaction is accentuated with more high cognitive demand discussion (Pellegrini, Perlmutter, Galda, & Brody, 1990; Sulzby & Teale, 1987). In particular, Pellegrini et al. (1990) reported that mothers used more strategies to ensure their children's participation in expository texts (both books were collections of pictures and labels with a minimal text structure), and the discussion was of high cognitive demand. However, no differences were found related to the cognitive level of discussion between familiar texts (comics, toy advertisements) and traditional stories.

Bus and Van Ijzendoorn (1988) found more reading instruction focusing on letters and sounds with an ABC book, while picture books (*Where Is Spot?*) emphasized a question-answer pattern of interaction. Mason, Peterman, and Kerr (1989) have also reported differences in teachers' presentation style between fiction and information books; however, these differences were not examined in a systematic way. They mention that during the reading of fiction books teachers elaborated the story line and reading was usually followed by retelling of the story. With information books, the teachers focused on the development of vocabulary and concept building through discussion of children's personal experiences related to the topic. With picture books with limited text (three or four words on each page), the discussion focused on children's own bedtime events, giving more emphasis to print features than other features. Guided by the

outcomes of the existing research, we hypothesized that differences would appear on the cognitive level of discussion between the information books and the fiction books between the narrative and the expository text but not between the familiar and the unfamiliar fiction book.

Methods

Participants

The data collection took place in Greek kindergarten schools. Twenty teachers participated from two Greek islands, and the children in all classes were of mixed ages from 3.5 to 5.5 years old. Teachers volunteered to participate, and the sample consisted mainly of experienced teachers (mean teaching experience = 12.6 years, range 3-20). Each class had from 10 to 20 children, all of whom attended the book session. Teachers usually read children's books three times a week.

Materials

Given that the choice of book has considerable impact on the presentation style and the discussion, it was important to give the same books to all teachers. Research on the books that Greek children of preschool age have at home revealed that they mainly have cheap editions of traditional fairy tales (Kitsaras, 1993). The lack of children's access to other types of children's literature can be attributed to the fact that public libraries in Greece are rare, and there is no campaign publicizing the impact of book reading on young children's development.

All teachers read the same four books to the students, including a variety of book and text genres: *The Four Elements: Fire* by Rius and Parramon (1992), *Life under Earth* by Rius and Parramon (1994), *Winnie the Witch*by Paul and Thomas (1990), and *The Three Little Wolves* by Trivizas (1993).

The Four Elements: Fire is an information book with limited expository text. It describes features of fire, such as its color, and gives examples of when fire is good or bad, useful or dangerous. The pictures are rather static, showing the different uses of fire (e.g., a fireplace, a forest blaze, the candles of a birthday cake, Indians dancing around the fire) and complement the text. *Life under Earth* is an information book with a more extended narrative type of text. A little rabbit describes different events of its life, such as how its parents made their burrow, the kind of food it eats, and so forth. The illustrations present life under earth (roots, animals, bulbs) in great detail and either complement or follow the text at each page. *Winnie the Witch* is a contemporary fiction book that presents an eccentric witch who lives in a black house with a black cat. The good witch prefers to change her house to make her cat happy. The text has no dialogue. The illustrations are very impressive and complement the text. The house, the objects, and the heroes are presented with great detail and artistry. This particular book is considered to have an unfamiliar format because it does not follow the conventions of the fairy tales most children are used to. For example, there is no dialogue, there are no familiar expressions such as "once upon a time" or "they lived happily ever after," and a lot of information is implicit and is complemented by the book illustrations. *The Three Little Wolves* is a fiction book that follows the traditional style of "The Three Little Pigs," a popular fairy tale well known to children. All teachers had either read or told this traditional fairy tale in their class. The text in *The Three Little Wolves* has a lot of repetition, dialogue, and rhyming—all features of traditional fairy tales. The illustrations are also impressive and either follow or complement the text.

When teachers presented the books, they asked whether any child had the specific book at home or whether someone had read it to them. During the study, no child from all 20 classes knew the books, apart from one who owned a copy of *The Three Little Wolves*.

Procedures

Each session was tape recorded. Books were given to the teachers the day prior to the recording, and they were first read during our visit. Teachers were instructed not to read the text to the children in advance because research has shown that familiarity with the book changes the interaction patterns of book reading, with children participating more actively (Goodsitt, Raitan, & Perlmutter, 1988; Beals, DeTemple, & Dickinson, 1994). Additionally, we asked teachers to present the book in their usual way and try to ignore the presence of the researcher in the classroom.

Children sat on benches opposite the teacher. Most teachers adopted an interactive style in the presentation of information books (reading each page, showing the picture, discussing it); in presenting fiction books, they adopted a performance-oriented style (first read the whole story and then presented the pictures followed by discussion). The order of presentation of the four books was randomized to assure that there would be no differences between books due to children's increasing experience of being read to. From each class, we collected four different book readings; each session took place on a different day. In total, 80 sessions were collected. The mean durations of the session for the books follow: *The Four Elements: Fire: M* = 22, *SD* = 6.22;*Life under Earth: M* = 22, *SD* = 7.7; *Winnie the Witch: M* = 22, *SD* = 7.1; and *The Three Little Wolves*: *M* = 33.5, *SD* = 12.8.

Measures: Developing a Coding System

Unit of Analysis

The unit of analysis for the reading of the text by the teacher was the sentence; for the discussion for both teacher and children, the unit of analysis was the utterance. Utterances are defined as phrases that are distinctive in content and include intonation and turn taking between the teacher and the children (Wells, 1975).

During the coding of children's behavior, all their spontaneous comments were counted as separate utterances. More than one reply to a teacher's question counted if the teacher accepted the child's comment. If the teacher acknowledged more than one reply, then all replies counted as separate utterances.

Coding of the Participants' Behavior

To code the data, we adopted five different categories of features used by Wells (1975); Blank, Rose, and Berlin (1978); and Dickinson and Smith (1994) adapted for the needs of this study. The first category refers to the speaker (the teacher or child). The second is related to the context and includes book reading and talk before, during, and after book reading. The third codes opened or closed question or response or provision of information. The fourth category of feature specifies spontaneity or responsiveness. Spontaneous utterances included all questions and statements that initiated discussion. Responsive utterances included all responses to questions, statements that were prompted from another statement, and repetition of questions for a correct answer to be given.

The fifth category refers to the cognitive engagement of the participants. All utterances were recoded into three groups according to the degree of difficulty posed on the child during book discussion. The degree of difficulty varies according to the experiences each child brings from home. Because we were interested in an exhaustive description of the discussion, all comments related to the management of interaction were also included as a separate group of utterances.

High Cognitive Demand Discussion. This category includes all utterances that are more likely to engage the participants in sustained discussion during which they have to analyze, predict, and reason. The subcategories follow:

- *Predictions*—of coming events, changes in structure (e.g., Child: If a baby fall in the fire, it will be burnt); formulating alternative solutions, hypotheses.
- *Analysis*—demonstrating their knowledge of the world, explaining incidents not stated in the text, making comparisons without the assistance of pictures, assuming the role of another person (e.g., Teacher: "How did he feel?"), identifying the causes of an event (e.g., Teacher: "How can a fire be set?"), explaining an inference drawn from an observation (e.g., Teacher: "How did you understand that it is a carrot?").
- *Reasoning*—interpreting characters' actions or feelings (e.g., Teacher: "Why is the pig bad?"), justifying personal preferences (e.g., Teacher: "Why do you like it?"), explaining the logic of compound words (e.g., Teacher: "Why is it called a mole?" in Greek, blind mouse[1]).

Medium Cognitive Demand Discussion. The medium cognitive demand includes utterances that are not likely to engage the participants in sustained discussion, which requires from them to apply thinking skills of increased difficulty. The categories follow:

- *Clarification of Comments*—making clearer what was stated, asking questions in order to clarify pictures.
- *Vocabulary Analysis*—when the explanation of the word is extended and further information is being given, then it is coded as analysis.
- *Personal Experiences* (e.g., Child: "My grandfather has onions and potatoes." Child: "In our village, we have a big well and it's full with water.")
- *Evaluating*—personal preferences, simile (e.g., like jelly), making inferences from pictures, moralizing.

Low Cognitive Demand Discussion. The low cognitive demand category includes all utterances that focus on the book illustrations or the text being read by the teacher. The categories follow:

- *Book-Focused Comments*—presenting a book; discussing writer, illustrator, front-back page, position of pictures, print.
- *Chiming*—rhyming, singing, language play (e.g., Child: "She made him greenish").
- *Labeling*—naming objects, describing pictures, identifying features, abstractions of physical properties such as color, size.
- *Recall*—of story text, summarizing immediately after reading the text.
- *Personal Responses to the Text*: (e.g., Child: "That is funny!").
- *Dramatization*—utterances in which children are reenacting with sounds.

Management of Interaction

Utterances related to management of interaction during the reading session were categorized as follows:

- *Gives or Requests Attention.*
- *Feedback Response.*
- *Task Organization*—turn taking, defining appropriate behavior, managing the task.
- *Repeat/Check*—whether something was not heard well.

After the coding of the transcripts, all the measures of oral language were calculated in relation

to the total number of utterances for each session. In order to achieve reliability in the coding of the data, two persons were employed. Eight transcribed stories were coded in order to calculate the interobserver's reliability. The Cohen Kappa for the participants and the context ranged from 0.99 to 1; for information, 0.97 to 0.99; for participation, 0.92 to 0.99; and for cognitive engagement, 0.90 to 0.97, reflecting "very substantial" agreement (Bakeman & Gottman, 1986).

Results

Cognitive Engagement during Book Reading Interaction

Table 1 presents the cognitive engagement of the total book session for both teachers and children. It appears that only 13% of the total utterances from all 80 sessions referred to the reading of the text, while most of the time was devoted to group discussion. Overall, the majority of utterances were related to low cognitive demand discussion (32.5%) and management of interaction (22.3%). In particular, the discussion was mostly concerned with text recall (14.1%), explication of the book illustrations (labeling: 13.9%), feedback response (11.2%), analysis of the text (10.2%), and evaluating comments (7.3%).

Table 1
Cognitive Engagement during Total Book Reading Interaction for Both Teachers and Children

Cognitive Engagement	*n*	%
Book reading	4386	13
Low cognitive demand		
Book focus	238	0.8
Chiming	591	1.8
Labeling	4659	13.9
Recall	4710	14.1
Personal response	472	1.4
Dramatization	157	0.5
Total of low cognitive demand	10827	32.5
Medium cognitive demand		
Clarify	574	1.7
Vocabulary	294	0.9
Personal experiences	1421	4.2
Evaluate	2452	7.3
Total of medium cognitive demand	4741	14.1
High cognitive demand		
Analysis	3422	10.2
Reasoning	1721	5.1
Prediction	914	2.8
Total of high cognitive demand	6057	18.1
Management of interaction		
Task organization	2310	6.9
Feedback response	3764	11.2
Attention	816	2.4

Repeat / Check	405	1.2
Incomprehensible	127	0.4
Others	75	0.2
Total of management of interaction	7497	22.3
Overall total	33508	100

As expected, teachers participated more than children (teachers: 59%, children: 41%). Children's cognitive engagement depends on teachers' choice of cognitive strategies. In particular, teachers' high cognitive demand participation elicited children's high cognitive demand participation (rs = .41, p < .03). The same pattern is repeated for the categories of low and medium cognitive demand participation (rs = .54, p < .007; rs = .53, p < .008). Furthermore, a negative correlation appeared between teachers' participation of low cognitive demand and children's participation of medium and high cognitive demand (rs = -.58, p < .004; rs = -.68, p < .000) and between teachers' participation of medium and high cognitive demand and children's participation of low cognitive demand (rs = -.43, p < .02; rs = -.57, p < .004).

Additional correlations between teachers' and children's behavior point out:

- The more teachers participate, the less children participate spontaneously (rs = -.52, p < .009).
- The more teachers participate, the less children's participation is of medium and high cognitive demand (rs= -.40, p < .03; rs = -.49, p < .01). However, such a correlation was not found for children's low cognitive demand participation (rs = -.10, p < .33).

We were also interested to examine whether a relationship exists between the cognitive demand of discussion during book reading and that after the reading of the text. A significant relationship appeared only between medium cognitive demand discussion during book reading and children's spontaneous medium cognitive demand comments in post-reading sessions (rs = .49, p < .01).

Differences in Cognitive Demand of Discussion among the Four Books

Figure 1 illustrates the differences in the cognitive demand of discussion among the four books. We found significant differences for both low and high cognitive demand of discussion between information and fiction books (z = -3.58, two-tailed p < .0003, and z = -3.77, two-tailed p < .0002). Nineteen groups engaged more in low cognitive demand discussion with fiction books, while with information books, 18 groups focused more on discussion of high cognitive demand. Thirteen groups had more medium cognitive demand discussion with information books, which almost reached the level of significance (z = -1.92, two-tailed p < .054). For the category of management of interaction, no significant differences were found (z = -1.17, two-tailed p < .23).

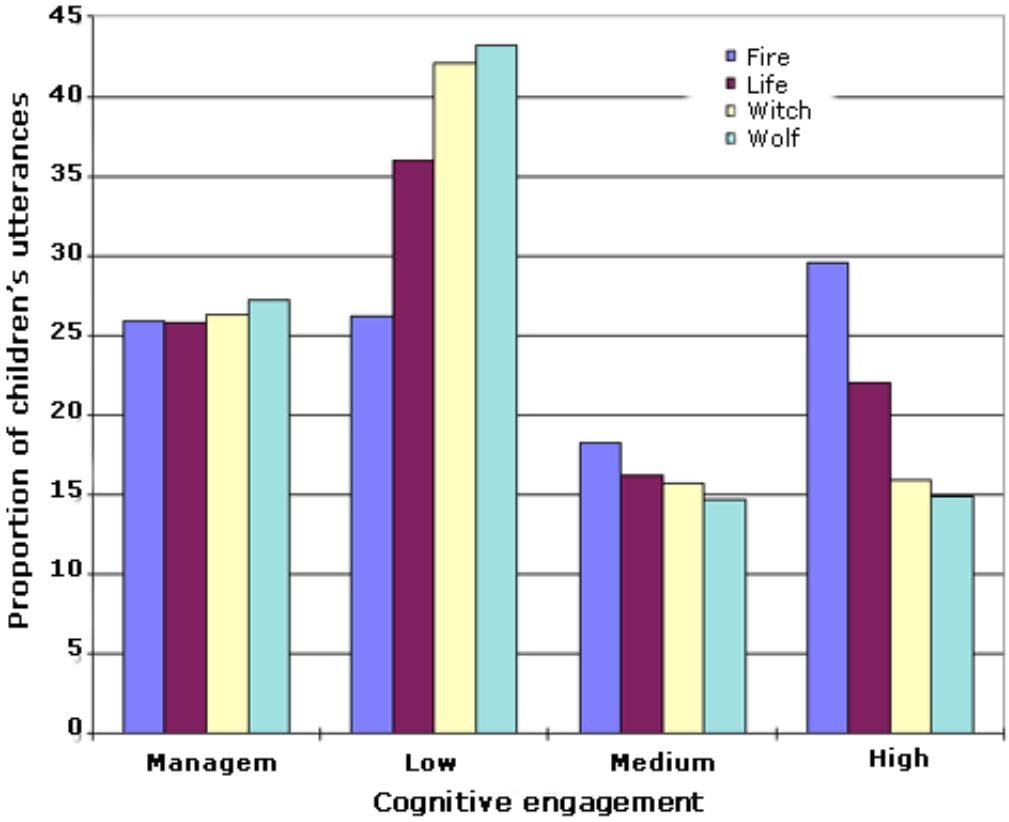

Figure 1. Differences in cognitive demand of discussion among the four books.

When the narrative (*Life under Earth*) and the expository text (*The Four Elements: Fire*) were compared, significant differences were found only for the categories of low and high cognitive demand (low: z = -2.76, two-tailed p <.005; high: z = -2.89, two-tailed p < .003; medium: z = -.07, two-tailed p < .94; management z= -.80, two-tailed p < .42). In 16 out of 20 groups, *The Four Elements: Fire* elicited more discussion of high cognitive demand, whereas *Life under Earth* prompted more low cognitive demand talk.

Finally, no differences were found between the unfamiliar story format (*Winnie the Witch*) and the familiar one (*The Three Little Wolves*) (management: z = -.61, two-tailed p < .53; low: z = -.31, two-tailed p < .75; medium: z = -.37, two-tailed p < .70; high: z = -.44, two-tailed p < .65).

Discussion

The first objective of this study concerned teachers' and children's cognitive engagement during classroom book reading. Overall, we found that most group discussion focuses on text recall and labeling and is of low cognitive demand. Retelling is one of the most frequent activities taking place, accompanied by the description of the book illustrations particularly useful for text comprehension. It is interesting to note that only 0.8% of utterances refer to book-focused comments (e.g., "The title of the book is fire. Look here. It says fire."). Such comments are related to print awareness and concepts about books. There is usually a distance between the teacher and the children sitting around her, making it difficult for children to pay attention to print features. Thus, it is unrealistic to expect that group book reading alone can contribute to children's development of concepts about print.

A significant part of the discussion is related to management of interaction (22.3%), most of which concerns feedback response (11.2%). Considering the children's ages and the fact that the activity is a group one, such a finding is not surprising. A considerable proportion of high cognitive demand discussion (18.1%), mostly related to analysis (10.2%), also takes place. This

type of discussion assists children's development of representational abilities, which are especially beneficial for children's later school success. Finally, only 14.1% of the discussion is of medium cognitive demand. The majority of such utterances refer to evaluations (7.3%) and personal experiences (4.2%). Among others, evaluation codes talk related to what children liked most about the story, moralizing, and making judgments about characters' behavior and particular events.

As expected, children's participation is highly correlated to teacher's participation at the level of cognition, which complies with findings from other studies (Dickinson & Smith, 1994; Danis, Bernard, & Leproux, 2000). Furthermore, we found a negative correlation between teachers' participation and children's medium and high cognitive demand participation. Such relationships illustrate that children need space if they are to elaborate, evaluate, and analyze during group discussion. A positive correlation also appeared between group discussion of medium cognitive demand and children's spontaneous comments of medium demand in post book session. The majority of spontaneous utterances in this category refer to children's personal experiences (Moschovaki & Meadows, 2005). It seems that initiating discussion about such experiences is a strong motivating factor for children's participation. Thus, children's urge to share personal experiences within the group is strong enough to last even after text reading.

We observed that discussion about personal experiences creates great excitement in the group, and the teacher usually plays a decisive role in managing the interaction. All children want to share their personal experiences related to the topic of the book. Linking new information with what they already know, usually their firsthand experiences, is a spontaneous meaning-making activity. However, sharing personal experiences within a group situation is also something more than a cognitive strategy. Speaking inside the group, children acknowledge themselves; sharing part of their personal world is one way of doing it, as the following example points out. The teacher here points at the picture that illustrates a mole inside a tunnel.

> *Teacher:* These are big mice, rats that live under the earth.
>
> *Child:* Mrs.?
>
> *Teacher:* Yes?
>
> *Child:* My father, we went to feed our dog, and a mouse was in the sack, and my father took him out and killed him.
>
> *Teacher:* Oh, do you see what they (mice) do! (Children raise hands to speak.) Yes, Ageliki.
>
> *Child:* Mrs., one day we put our car in our garage and then went in the house, and we saw a mouse.
>
> *Child:* Mrs.... Mrs.?
>
> *Teacher:* Yes?
>
> *Child:* I, one day with my grandfather, we went to the mountain, and we saw a dead mouse, and then my grandfather picked it up with a piece of paper and threw it in the river.
>
> *Teacher:* Was he dead? Yes, Lambro.
>
> *Child:* My grandmother killed a mouse, and it was that big!
>
> *Teacher:* Oh, it must have been in the garden.
>
> *Child:* Miss, me and my father have a big mouse, and he stole and took my food.
>
> *Teacher:* He took your food? Well OK, lets see what the mouse in our story did.

The second objective examines differences in cognitive engagement among different types of

books. Information books and expository texts prompted more high cognitive demand discussion, while fiction books and narrative texts of information books more low cognitive demand discussion. The expository text *The Four Elements: Fire* elicited the highest proportion of high cognitive demand discussion. The text of the particular book was limited and did not provide enough information. Pictures gave clues, and teachers exploited them. They tried to elicit a lot of personal experiences from children, involving them in reasoning, analysis, and prediction in order to complement the lack of information in the text. On the other hand, familiarity with the story format had no effect on the cognitive level of discussion. Such outcomes comply with previous research findings (Sulzby & Teale, 1987; Mason, Peterman, & Kerr, 1989; Pellegrini, Perlmutter, Galda, & Brody, 1990). This finding suggests that parents and teachers who read a lot of information books and expository texts to children are more likely to engage their children in high cognitive demand discussion with an impact on both language development and the development of their representational abilities.

The outcomes strongly suggest that there is a book effect on the quality of discussion and on children's cognitive engagement. Teachers adopt different stances with information and fiction books. In fiction books, they are more concerned with the understanding of the story line, while in information books, they want children to learn information about the topic (e.g., fire, life under earth). Therefore, the discussion of fiction books is more book focused (low cognitive demand) in contrast to a more book-extending discussion (high cognitive demand) taking place with information books. Contrary to story format (familiar/unfamiliar), text genre (expository/narrative) also seems to have an impact on the quality of discussion. However, given that the expository texts were minimal in both this study and in the study by Pellegrini et al. (1990), it is possible that the outcome is due to its length rather than text genre. Thus, future research should control other parameters such as text length and quality of illustrations if we are to find conclusive evidence.

Implications for Future Research and Practice

The outcomes of this study have considerable implications for future research projects, especially for longitudinal studies. So far, the majority of longitudinal studies have focused on the frequency of book reading in relation to children's developmental outcomes (Scarborough & Dorbich, 1994; Bus, Van Ijzendoorn, & Pellegrini, 1995; Blok, 1999). However, other dimensions of book reading should be taken into consideration to develop a clear picture of the long- and short-term effects of book reading on young children's development. In particular, the outcomes of this study seem to indicate that information books elicit more high cognitive demand discussion, which is more likely to develop young children's representational abilities. Fiction books are more likely to develop children's ability to comprehend stories and develop story schema knowledge. In addition, other studies have shown that small texts with large letters seem to be responsible for the development of early reading skills if used appropriately by the teachers (Bus & Van Ijzendoorn, 1988; McCormick & Mason, 1986, 1989). An account of what sorts of books adults read and their presentation style can predict more accurately how children are likely to benefit.

The study also has implications for practitioners. Research has indicated that book reading has considerable impact on children's development of early literacy skills, their receptive and expressive language, and their thinking skills, which assist the development of disembedded thinking (see reviews in Scarborough & Dorbich, 1994; Bus, Van Ijzendoorn, & Pellegrini, 1995; Blok, 1999). Teachers should become aware of the various benefits of book reading and structure such sessions to optimize the benefits children can gain from them. For example, the presentation of books can have a significant impact on children's development of representational abilities. Children's lack of ability to sustain their attention on language alone should be taken seriously into account by teachers. Some teachers prefer to always show the book illustrations while reading the text, which means that children do not have the opportunity to concentrate for prolonged periods of times on language alone. Yet this concentration is

important if children are to be able later on to attend to the language the teacher uses within the classroom (Donaldson, 1978).

Furthermore, teachers should pay attention to the quality of book discussion. Discussion that revolves around predictions of coming events, reporting of world knowledge, identifying causes of an event, interpreting characters' actions and feeling, explaining inferences, and so forth, is particularly useful for the development of children's representational abilities. Teachers could be trained to use such strategies during group discussion. However, children's developmental levels should also be taken into account. For example, research has found that the describer style of reading (low demand) is beneficial for the development of children's vocabulary and print skills, while the performance-oriented style (high demand discussion taking place after text reading) is more beneficial for the proficient children (Reese & Cox, 1999). Therefore, teachers need to become aware of the need to select a wide range of books and prompt the discussion according to their expected goals and children's developmental level if book reading is to offer the utmost for young children's cognitive development.

Note

1. In Greek, the mole is called "tyflopodikas." It is a compound word where "tyflos" means blind and "podiki" means mouse. Teachers explained that moles are almost blind because they live under the earth where there is no light. Based on such information, they justified the name of the particular animal.

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Author Information

Eleni Moschovaki has worked for several years as a preschool teacher in nursery and kindergarten schools. She is currently working as a school adviser in preschool education, employed by the Ministry of Education of Greece. She is a member of various associations, and her research interests are related to early literacy and preschool education.

Eleni Moschovaki
Ritsou 9 Atsiki
82100 Chios
Greece
Email: gkem@otenet.gr

Sara Meadows is a senior lecturer in the Graduate School of Education at the University of Bristol, U.K. She is the author of six books about children's cognitive development, the most recent being a new edition of *The Child as Thinker,* which will be published by the Psychology Press late in 2005.

Sara Meadows
Graduate School of Education
University of Bristol
35 Berkeley Square
Bristol BS8 1JA
United Kingdom
Email: sara.meadows@bris.ac.uk