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Constructing Knowledge About and With Informational Texts: Implications for Teacher-Librarians Working With Young Children

Margot Filipenko

Department of Language and Literacy Education, University of British Columbia, Canada

Although young children's developing understandings of the concept of story have been thoroughly researched, children's information literacy development has gone largely unexamined. This article reports a study of young children's understandings of informational texts and offers a grounded theory of their information literacy development. Six broad conceptual categories of children's talk emerged from the data analysis: informational text knowledge; world knowledge; representing meaning; building connections; reflective talk; and relational talk. These categories represented the various facets of children's engagement with nonfiction texts and revealed how these children constructed meaning about and with this type of text. The findings from this study have implications for early childhood education and affect the teaching of information literacy and the role of the teacher-librarian.

Introduction

Langford (1998) writes that there is no clear definitive definition of information literacy. A review of the literature suggests that in the past, information literacy has most often been described as the ability to locate, manage, and use information effectively for a range of purposes (Asselin & Dreyer, in press; Langford, 1998; Spitzer, Eisenberg, & Lowe, 1998). The definition of information literacy provided by the American Library Association has been widely accepted by those in the library field and has formed the basis for subsequent definitions:

> To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. (American Library Association Presidential Committee on Information Literacy, 1989, p. 1)

Later definitions of the information literate person tend to cover the same elements, but expand on them in one way or another. Spitzer et al. (1998) suggest that since 1992, as individuals or groups explored the concept of information literacy, new definitions have been proposed that encompass how "information literacy extends into the realms of critical thinking and

ethical usage of information" (p. 26). Langford (1989) proposes that information literacy is a means to an end:

> What that end is depends on what the individual or community wants, that is, what the information needs are for that society at that time. This notion also reinforces the ideal that has continually linked learning with information literacy: the paradigm of lifelong learning. (p. 68).

Asselin and Dreyer (in press) write that there is a growing focus on literacies in the Information Age by literacy (as opposed to library) researchers. Although, in general, these studies concentrate on reading and writing of print-based texts, they are nonetheless concerned with reading and writing in terms of the development of information literacy. The study reported here was designed to investigate what young children's talk revealed about their knowledge of informational texts. The definition of an information literate person that underpins this study is adapted from Doyle (1994). That is, an information literate person:

- recognizes an information need;
- formulates a question based on information needs;
- identifies or accesses potential information sources;
- develops successful search strategies;
- summarizes and analyzes essential information from pertinent resources;
- organizes information for practical application;
- integrates new information into an existing body of knowledge; and
- applies information in critical thinking and problem-solving.

Purpose of the Study

The importance of information literacy to assist students in becoming lifelong learners has been well documented. Duke (2000) suggests that in the Information Age, the ability to understand, evaluate, and use informational texts is "central to success, and even survival, in advanced schooling, the workplace, and the community" (p. 202). It is essential that children learn the skills of *learning how to learn* throughout their schooling years in order to become information literate people (Ryan & Capra, 2001). Knowledge of children's information literacy development is crucial for teachers and teacher-librarians if they are to help children cultivate the skills necessary to become information managers and lifelong learners.

Yet despite the importance of information literacy to individual success, research indicates that students in the intermediate and senior grades are struggling with reading and writing informational or expository texts, that is, texts written to inform, to explain, to describe, to present information, or to persuade (Alverman & Boothby, 1982; Applebee, Langer, Mullis, Latham, & Gentile, 1994; Dreher & Sammons, 1994). It has been suggested that an almost exclusive emphasis on story in the early childhood education years has left children with little experience in reading informational texts (Ap-

plebee et al., 1994; Caswell & Duke, 1998; Duke, 2000; Moss, 1995; Pappas, 1991, 1993, 1997; Sanacore, 1991) and this, coupled with little experience in informational writing, has led to what Daniels (1990) calls an "expository gap" (p. 107). That is, children are provided with plenty of classroom experiences to help them handle the demands of reading and writing narrative texts, but receive little or no classroom experiences in handling the demands of effectively reading and writing informational texts. Scholars suggest that providing young children with more experiences with informational texts in the early grades may help mitigate their difficulties with informational texts in the later grades (Applebee et al., 1994; Caswell & Duke, 1998; Duke, 2000; Pappas, 1991, 1993, 1997; Sanacore, 1991). Although there is a base of support for greater attention to informational texts in the early childhood education classroom, little research has been published about what young children know about informational texts or how such knowledge progresses. The research reported in this article investigated what young children's talk revealed about their knowledge of informational texts.

The Research Study

Context of the Study

The study took place in a multi-age preschool (children aged 3-5 years) classroom in Canada. The philosophy of the preschool stressed a play-based, child-centred approach that encouraged children's active exploration of the environment through play, either individually or in collaboration with others. The program is in keeping with the National Association for the Education of Young Children's (NAEYC) policies and guidelines for excellence in early childhood education.

Two teachers, Veronica and Gina, team-taught in this multi-age classroom; Gina (the focal teacher of this study) was particularly involved in supporting the children's information literacy development. During the study, activities and learning were designed around the theme of dinosaurs. Activities included creating a dinosaur world in the water table; a research project about what dinosaurs ate; writing both fact books and story books about dinosaurs; measuring how long the Lambeosaurus dinosaurs were; creating a "Dinosaur World Diorama," and so on. The preschool day began with an hour of free play. During this time, children were free to choose where and with whom they played. The children could be seen playing either individually or in small groups. In general, the teachers circulated, helping and occasionally directing children to certain activities (e.g., finishing a project that had already been started or supporting and scaffolding children's efforts). Blocks of time were also provided for full-group meetings and readalouds (i.e., the teacher read aloud from a variety of books to the whole class or small groups for pleasure or for a specific purpose, e.g., to listen for and gather information about the eating habits of dinosaurs).

Literature, and in particular informational texts, permeated the preschool classroom, and the two teachers provided the children with rich and numerous opportunities to learn about written language. In particular, the focal teacher Gina supported the children's language and literacy learning in four ways. First, she always followed the children's leads. For example, she observed children as they talked, shared books, and engaged in both representing and emergent writing activities. These observations were then used to plan subsequent activities. Second, Gina modeled reading and writing strategies in ways that would support children's emerging reading and writing skills. For example, she modeled the use of the *table of contents*, thus drawing the children's attention to a particular organizational feature of informational texts. Third, Gina *incorporated routines* that included purposeful reading and writing. For example, waiting lists were generated for popular activities. If a child was interested in an activity but found there was no room, he or she was expected to add his or her name to a waiting list. When a child had finished the activity, he or she would check the waiting list and inform the next child on the list that it was his or her turn. The new child would cross his or her name off the waiting list and begin the activity, and so on. Finally, Gina *planned activities* involving reading and writing. For example, the children were encouraged to write their own dinosaur books using informational texts as models. These books were shared with the full group and catalogued into the *Library School Books*.

Research Design and Methodology

The study sought to answer the following questions: What is the nature of children's oral interactions as they share informational texts, participate in informational text readalouds, and engage in activities incorporating informational texts? What does this talk reveal about the children's beginning understandings of informational texts?

Descriptive, qualitative research methods conducted in the naturalistic setting of a preschool classroom (Bogdan & Biklen, 1998) were used. The study reported here took place in a preschool classroom of 4- and 5-year-old children. The preschool's population was middle-class, with a broad racial and cultural mix. Eighteen children attended the focal preschool class. The staffing ratio of teachers to children in a preschool classroom in this particular province of Canada is one teacher for every eight children; thus there were two full-time teachers and a part-time assistant.

The teachers used trade books for shared reading, which was scheduled once daily. Further informal book readalouds with a small group took place in response to children's requests. Informational books were also used to support and facilitate some of the classroom activities, for example, to learn about the environment in which dinosaurs lived for the Dinosaur Diorama. Because the aim of the study was to capture as fully as possible young children's growing understandings of informational texts, the focus of the

study became the associated talk that occurred before, during, and after: (a) whole-group informational book readalouds in the formal circle-time setting; (b) whole-group activities incorporating informational books during the formal circle-time setting; (c) informational book readalouds with a small-group in a spontaneous, informal setting; (d) small-group activities that incorporated informational texts; and (e) child-to-child informational book sharing.

The rationale for the choice of these five contexts was that each of the contexts provided a unique opportunity for children to display their knowledge of informational books. For example, it was felt that the student-driven, spontaneous informal book readalouds and free-choice small-group activities (which included informational books) would encourage various types and quantities of responses, particularly from those children who might be less likely to speak in a formal full-group circle situation.

The researcher's stance ranged along the continuum from *passive participant to moderate participant* (Spradley, 1980). The readaloud sessions (8 full-group events, 6 small-group events), children sharing information books (4 events), and activities using information texts (10 full-group and 10 small-group events) were videotaped and transcribed by the researcher; other data sources included field notes (including observations of an additional seven readalouds and activities incorporating informational texts) and an audiotaped interview with the focal teacher. Two full-group readalouds, six small-group readalouds, three events of child-to-child sharing of information texts, seven full-group activities using information texts, and five small-group activities using informational texts were chosen for in-depth analysis. The rationale for choosing transcripts for in-depth analysis was as follows:

- data from each of the contexts needed to be included;
- only readalouds and activities led by the focal teacher would be included; and
- data must be included from the beginning, middle, and end of the study.

The other data were used in a supplementary way.

Data were analyzed using the constant comparative method of analysis (Strauss & Corbin, 1998). Codes and categories were assigned and modified as the analysis proceeded (Bogden & Biklen, 1998). In this way, a grounded theory of these children's information literacy development emerged. In the reporting of the findings of the study, the names of the teachers and the students are pseudonyms.

Findings of the Study

Conceptual Categories of Children's Talk

Through qualitative analysis of the videotape transcripts, the following six major categories were identified into which the children's utterances could be placed:

Category 1: Informational Text Knowledge included all utterances that seemed to deal with the children's knowledge of the informational text itself. Included in this category were responses that dealt with children's knowledge of the particular discourse patterns and format features of the informational text genre. For example, the children identified that the aim of an informational text is to "tell you information that really happened"; that information can be located using the table of contents and page numbers; and that information is displayed in a variety of ways (e.g., menus, timelines, illustrations, etc.).

Category 2: World Knowledge included all responses that reflected the children's knowledge about the content or topic of the informational text. For example, as well as labeling many types of dinosaurs (e.g., Tyrannosaurus Rex, Stegosaurus, and Triceratops), the children identified that dinosaurs are extinct and offered explanations as to why they became extinct.

Category 3: Representing Meaning included responses that suggested that the children were using the particular internal text structures of informational texts to represent their understanding of particular aspects of informational texts. For example, the children made descriptive comments and elaborated on the focus topic, put facts or events into sequence, contrasted or made comparisons between facts or concepts, and commented on how an event happens because of other factors (cause and effect). The responses in this category were thus essentially associated with representing understanding of informational text structures.

Category 4: Reflective Talk included responses that indicated that the children were monitoring their knowledge and comprehension of the text. Oral responses in this category included identifying gaps in knowledge, seeking specific information, talking about or playing with language, and making aesthetic judgments about some aspect of the text. The responses in this category reflected the children's metacognitive awareness.

Category 5: Building Connections included responses that indicated the children's ability to relate or link their engagement with informational texts to something either within or beyond themselves. For example, children made connections to personal experiences and the content of the informational text, invited other children to join in sharing the text, and engaged others through imaginative interactions with the text.

Category 6: Relational Talk included all the responses that appeared to have nothing to do with the children's engagement with informational texts. These responses included the regulatory talk of the classroom (e.g., reminders about the classroom rules), making wants and needs known (e.g., requests to use the toilet), and linking with others. Oral responses in this category reflected the general relational talk of a classroom community.

Taken together, these six categories and the patterns of their interrelationships describe the nature of these children's talk as they engaged with informational texts. The children expressed their informational text knowledge

Table 1
Frequencies and Percentages of All Children's Talk by Type

Category 1 Text Knowledge		*Category 2 Content Knowledge*		*Category 3 Representing Meaning*		*Category 4 Reflective Talk*		*Category 5 Building Connections*		*Category 6 Relational Talk*	
N	%	*N*	%	*N*	%	*n*	%	*n*	%	*n*	%
128	22	101	17	69	13	96	16	126	21	96	16

Note. *n*=number of conversational turns in all coded data.

and their knowledge of the content or topic of the informational texts they encountered, used internal text structures to represent their understandings of informational texts, reflected on their knowledge or comprehension of the text, built bridges to link or relate their topic knowledge to something within or beyond themselves, and participated in the day-to-day conversations of a classroom community.

A Grounded Theory of Young Children's Information Literacy Development

The categories of children's talk were used to suggest a theory of young children's information literacy development. The theory is grounded in the sense that it arises from the data for this study, making use of the six conceptual categories that emerged from the analysis of young children's responses in five contexts centered on the sharing of informational texts. As such, it may have limited applicability for other groups and ages of children using other sources of information.

In presenting the theory, I first reiterate the six conceptual categories and depict how the categories relate to each other in the form of a chart (Figure 1). This chart is based on a theoretical model developed by Sipe (1996) to explain young children's literary development.

However, although the above chart followed Sipe's (1996) format, it was changed to reflect the findings of this study and summarizes the central features of each of the categories involved in young children's developing understandings of informational texts. The headings at the top of the chart (Stance, Interaction, and Growth) represent the integrated actions of the child as he or she engages with informational texts (i.e., the stance or position the child takes to the text, the interaction that flows from the stance, and the potential for growth in understanding that proceeds from the interaction).

Stance refers to how children position or situate themselves to the text (Sipe, 1996). In the first aspect of young children's informational literacy development, children are concerned *with* the text itself in order to make sense of the form and organizational features of informational texts. In the second aspect, the children position themselves *within* the text in order to

A. Stance	*B. Interaction*	*C. Growth*
Positioning to the informational text	Interaction with the informational text	Potential for developing understandings of informational texts
1. *With* informational texts	Children recognize text features	Developing the ability to use text features
Dealing with the format and organization of the informational text. Children identify, use and make comments about the external texts structure and discourse patterns of informational texts.		
2. *Within informational texts*	Children activate schema	Developing knowledge about the world
Expressing knowledge and understanding of the informational text topic. Children activate schema to construct meaning for new material.		
3. *From* informational texts	Children represent understandings	Developing knowledge of internal text structure
Organizing and representing understandings of informational texts. Children represent their ideas using internal text structures encountered in informational texts.		
4. *Across* informational texts	Children self-appraise and self-manage	Developing as intentional learners
Expressing knowledge and control over learning. Children identify cognitive processes and actively monitor learning.		
5. *Through* informational texts	Children connect with personal experiences	Developing as active constructors of meaning
Making personal connections to the content of informational texts. Children relate or link their engagement with the content of informational texts to something within or beyond themselves.		
6. *Around* informational texts	Children participate in classroom community	Developing social relationships
Engaging in the general talk of the classroom community. Children link with others and make their wants and needs known.		

Figure 1. Six aspects of young children's informational literacy.

engage with the topic content. In the third aspect, children take *from* the text to represent their understandings. In the fourth aspect, children reflect *across* informational texts to identify learning needs. In the fifth aspect, children connect *through* the text to personal experiences, and in the sixth aspect, children develop social relationships *around* texts.

Interaction refers to how children engage with informational texts and flows from the stance that the children take toward the text. In the first aspect of young children's informational literacy development, the children may discuss the purpose or organization of an informational text, use the organizational features of an informational text to locate information, identify how information is represented, or use the particular language or discourse patterns of informational texts. In the second aspect, the children appear to draw on background knowledge to construct meaning for the new content material they encounter in the informational text. In the third aspect, the children appear to organize and represent their understandings of informational text content using the internal text structures encountered in informational texts. In the fourth aspect, children appear to be strategic in identifying learning needs, critically appraising or judging some aspect of the text and talking about or playing with language. In the fifth aspect, children appear to relate their own lives to the text or to relate the text to their own lives. Finally, in the sixth aspect, children connect with others as they participate in the day-to-day activities of a classroom community.

Growth refers to the potential for developmental growth that proceeds from the children's interaction with informational texts. In the first aspect of young children's informational literacy development, children may develop in their ability to identify and use the particular language, discourse patterns, or organizational features of informational texts. In the second aspect, children may develop their world knowledge or expertise in a particular topic. In the third aspect, children may develop in their ability to understand the particular internal text structures of informational texts. In the fourth aspect, the children may develop in their ability to self-appraise and self-manage their learning. In the fifth aspect, the children may develop in their ability to make life-to-text and text-to-life connections, and in the sixth aspect, children may develop their social relationships.

Thus each aspect of young children's information literacy development can be seen as interplay between stance and interaction with the potential for growth flowing from that interplay. Each aspect of young children's information literacy development can be summarized as follows.

1. With informational texts, children recognize text features and develop the ability to use informational text features.
2. Within informational texts, children activate schema and develop knowledge about the world.
3. From informational texts, children represent understanding and develop knowledge of internal text structures.
4. Across informational texts, children self-appraise, self-manage, and develop as intentional learners.
5. Through informational texts, children connect with personal experiences and develop as active constructors of meaning.

6. Around informational texts, children participate in the classroom community and develop social relationships that support learning and development.

Figure 1 describes each aspect of young children's informational literacy development and the interplay between stance and interaction with the potential for development that flows from that interplay. However, it is a rather static representation that views each aspect of children's information literacy development in isolation. In fact, these six aspects are not discrete categories. Rather, they should be viewed as facets of an information literacy moment, that is, during young children's involvement with an informational text, these six aspects are dynamically engaged and blur into a single cognitive event (i.e., an information literacy event). It is proposed that the six types of talk (aspects of young children's information literacy engagement) converge into a single, dynamic information literacy event in which the child engages with an informational text and works to construct an understanding of that text. Further, it is argued that each engagement with an informational text can be construed as a transformational moment. Barnes (1993) writes that as children revisit the same areas of knowledge many times, on each occasion they reach a higher level of understanding. The findings of this study showed that young children returned again and again to the same issues, building new meanings and constructing and extending understandings of and with informational texts. The following example is offered as an illustration. The children had been categorizing facts about dinosaurs as either true or false.

> *Teacher:* Oh! Here's a good one. There's only three [facts] left and then we're going to have snack. *Dinosaurs hatched from eggs.*
>
> *Nate:* Yes! Some! I'll show you one *[Nate goes over to the bookshelves. Looks for a book, finds it, opens it to an illustration and shows Gina].*
>
> *Teacher:* Yea, there's a wonderful picture in here, Nate. You're right! Oh! here's the picture. *[Gloria holds the book so that the children can see. The Book of Dinosaurs: A complete illustrated history (1993)]* There's the mother dinosaur. There she is looking at the nest with her eggs *[pp. 36-37].* There she is with them hatching.
>
> *Nate:* I know where there's more! I know where there's more that hatch eggs *[goes over to the bookshelves and looks. Comes back and pulls Gloria to go with him to the bookshelf].*

Although previous activities had centered on gathering facts from informational texts, this was the first time a child had attempted to use an informational text as evidence to judge the accuracy of a fact. Nate's actions suggest he has come to a new understanding regarding informational texts as a source of authority. This, it can be argued, is a transformational moment.

Bruner (1966) endorses the idea that children learn by revisiting the same area of knowledge over and over again, building higher and higher levels of understanding. He suggests that curriculum be organized on just such a

basis, what he refers to as a "spiral curriculum" (p. 53). Through a spiral curriculum, Bruner argues, children can revisit the same areas of knowledge many times, building more sophisticated levels of understanding with each visit.

The formal theoretical definition of young children's information literacy development that is implied by this discussion may be stated as follows. Young children's information literacy development consists of six aspects: informational text knowledge, world knowledge, representation, reflection, connections, and relational talk. During an information literacy event, these six aspects dynamically engage and blur as the child works to construct meaning. Information literacy development is the dynamic process whereby this engagement results in a transformational moment.

Discussion and Implications

I argue here that an understanding of Gina's teaching can have important implications for teacher-librarians. It was noted that the two teachers who team-taught in this multi-age classroom took different roles. A close scrutiny of the data revealed that while Veronica handled the day-to-day needs of a lively early childhood education classroom, the focal teacher Gina scaffolded and supported the children's information literacy development. Specifically, it was found that Gina: (a) identified information resources pertinent to the children's needs; (b) structured activities aimed at scaffolding children's understanding of the topic under investigation; and (c) facilitated children's understanding of how information is organized in an informational text.

Gina made every effort to respond to the children's curiosity and interest in the world around them. For example, the integrated unit on dinosaurs, the related activities, and research questions all arose from the children's interest in the topic. By identifying a topic that was of genuine interest to the children, Gina was able to engage the children in meaningful acts of inquiry. Lindfors (1999) defines an act of inquiry as "a language act in which one attempts to elicit another's help in going beyond his or her own present understanding" (p. ix). Lindfors suggests that there are two types of inquiry acts: information-seeking and wondering. Information-seeking utterances are deliberate, effortful, focused, and move toward a specified end or goal. Wondering utterances, on the other hand, are concerned with entertaining issues, for example, speculating and hypothesizing. In this study, Gina's and the children's utterances were both information-seeking and wondering as they explored both the world of the dinosaurs and informational texts. Gina's utterances, however, reveal that she went beyond identifying the purposes of informational texts and how to use them; she demonstrated how to be a member of a community of inquiry by demonstrating that:

1. Inquiry arises in knowledge (i.e., recognition that one's present knowledge offers the possibility of going beyond it, for example,

"We've identified what we know about dinosaurs, what else do we want to find out?").

2. Inquiry draws on various perspectives on experience (i.e., there is more than one way to make sense of a text, for example, "Robert thinks that this dinosaur is hunting, what do you think?").
3. Inquiry involves knowledge in action (i.e., making connections between concepts, using knowledge to provide support for ideas or for generalizing or clarifying, for example, "But if they're extinct then you wouldn't see dinosaurs").
4. Sense in inquiry involves feeling as well as thought (i.e., knowledge that is relevant comes from the heart as well as from the head, for example, "Meat-eating dinosaurs are scary!").
5. Inquiry stands at the intersection of know or not-know (i.e., the precise moment of reaching beyond what is presently known toward what is sensed to be beyond it, for example, "See if we can find out things we're not sure of!").
6. Inquiry's stance is uncertain and invitational (i.e., wondering about the text and issues related to it, for example, "I wonder why dinosaurs stayed in herds!").

By carefully listening to and following the lead of the children, Gina enabled them not only to build their understanding of informational texts, but also to think about, explore, and comprehend the information encountered in such texts. Thus like Gina, teacher-librarians working with young children should facilitate inquiry into those areas of interest identified by the children themselves; they should embody what Lindfors (1999) calls the "teacher-as-inquirer" (p. 116), the teacher who supports and models meaningful acts of inquiry (i.e., identifying sources of information, gathering and analyzing information, recording and presenting information) around a topic of keen interest.

Gina was knowledgeable about informational texts and identified appropriate books based on the children's interests and levels of understanding. This suggests that teacher-librarians must develop their own understandings of the particular and complex features of informational texts and identify appropriate examples for sharing with young children. In particular, the teacher-librarian should have a sound understanding of the range of structures and text patterns used in informational texts. Although informational texts are often written using a combination of several text structures, an author may use a particular text structure for framing the overall text (Bamford & Kristo, 2000). Keeping in mind that the overall text structure signals to the reader how to process the information contained in the text, it is vital that children experience a variety of age-appropriate informational text structures. For example, in this study, Gina introduced the children to many books with a sequenced structure. In general, these sequenced informational texts were in the form of alphabet and counting books, for example,

An Alphabet of Dinosaurs (Dodson, 1995) and *Dinosaur Pop-up ABC* (Maguire, 1995). Gina also introduced the children to appropriate books with an enumerative text structure. This is one of the most common text structures and is used when a topic has many subtopics. Generally, an informational text with an enumerative text structure is divided into chapters, and each chapter is devoted to a subtopic, for example, *The Big Golden Book of Dinosaurs* (Jenkins, 2000), which Gina shared with the children, has a number of chapters, each of which explores a type of dinosaur in a simple style appropriate for young children. Books with a simple compare-contrast structure were also identified and used with and by the children, for example, *The News About Dinosaurs* (Lauber, 1989) and *Dinosaur Roar!* (Strickland & Strickland, 1994). Finally, Gina identified and used many informational texts with a narrative structure (i.e., facts are embedded in a fictional story) such as *Patrick's Dinosaur* (Carrick, 1983). It should be noted that while reading narrative-informational texts with the children, Gina was careful to help the children understand and separate embedded facts from the fictional story. Indeed, one of Gina's unit objectives was that the children be able to understand and differentiate between fact and fiction, that is, differentiate between storybooks about dinosaurs and factual books about dinosaurs.

Conclusions

This study provides evidence that children as young as 4 and 5 years of age can demonstrate an impressive understanding of informational texts. Further, because the children involved in this study were novice readers, the study demonstrates that children need not be conventional readers, that is, be able to decode written text before they develop information literacy knowledge. The evidence shows that although the children in the study were not conventional readers, they were attending to the unique visual characteristics of informational text format features (e.g., table of contents, pictorial indexes, etc.) in order to gain meaning from the text. It seems clear, therefore, that children's awareness and knowledge of textual format features and the linguistic and internal text structures of informational texts develop in tandem.

Specifically, the evidence shows that these young children were grappling with and developing information literacy in the following ways:

- recognizing an information need and formulating questions based on that information need (i.e., children's *reflective talk* indicated that they were monitoring their knowledge and comprehension of a topic and, specifically, identifying gaps in their knowledge and seeking particular information to fill the perceived gap);
- identifying or accessing potential information sources and developing successful search strategies (i.e., *children's informational text knowledge talk* suggested that they understood that informational texts would provide them with specific information, that information can be located

using the table of contents and page numbers, and that information is displayed in a variety of ways);

- summarizing and analyzing essential information from pertinent resources and organizing information for practical application (i.e., children's *reflective talk* indicated that they were summarizing and elaborating on the focus topic, organizing facts or events into sequence, contrasting or making comparisons between facts or concepts and commenting on how events are interrelated—cause and effect);
- integrating new information into an existing body of knowledge (i.e., children's *building connections talk* illustrated the children's ability to connect or link new information to prior experiences and build new understandings); and
- applying information in critical thinking and problem-solving (i.e., children's *world knowledge talk* reflected their growing ability to grasp complex concepts, for example, what extinction means, the causes of certain animals extinction, and the role of humans in either protecting or contributing to the extinction of animals).

This study indicates that young children can and do enthusiastically engage with informational texts. There appears to be no reason, therefore, to exclude such texts from the early childhood education classroom. Indeed, both teachers and teacher-librarians have a responsibility for ensuring that information literacy skills are woven into curriculum across all subject areas, beginning in early childhood education classrooms. One of the roles of the teacher-librarian has been defined as an *information resource specialist* whose prime responsibility is to educate students in becoming information managers (Doiron, 1999). This study and the strategies that Gina used to support and scaffold the children's understandings of informational text can provide insight to teacher-librarians and suggest ways to enhance information literacy development.

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Author Note

Margot Filipenko completed her doctorate in language and literacy at the University of British Columbia in Canada. Before beginning graduate work, she was an early childhood educator for 15 years. During this time she

developed an interest in young children's developing literacy skills. The research undertaken for her doctorate reflects this interest. In 2004 she was a finalist for the International Reading Association's outstanding dissertation award. Dr. Filipenko is on faculty in the Department of Language and Literacy Education at the University of British Columbia. Her research interests focus on young children's information literacy development.