

Genre Development and Learning: *Children Writing Stories, Science Reports, and Poems*

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In this study I explore children's working knowledge of narrative, scientific, and poetic genres. Fifty-four kindergarten, first-grade, and second-grade children composed original texts representing each of these genres. They also provided oral justifications for why each of their texts instantiated the designated genre. All texts were coded for the presence or absence of a variety of textural and structural features that are typically distributed differentially across the three focal genres. Analyses showed that participants had significantly more experience with narrative genres than either scientific or poetic genres and that they possessed significantly more working knowledge of narrative genres than the other focal genres. Additionally, participants possessed more knowledge of macro-level genre features such as text structure than micro-level features such as cohesion markers. The findings suggest that children develop increasingly differentiated and flexible repertoires of genre forms and functions. Comparing findings from this study with findings from other studies suggests that tasks and task contexts significantly influence how and to what extent children demonstrate their genre knowledge, that different tasks scaffold genre learning in different ways and to different degrees, and that children's imbalanced exposure to different genres may contribute to their differential knowledge of genres. The study contributes to theorizing genre learning as a complex, contingent, and emergent process of differentiation and integration.

Each genre possesses definite principles of selection, definite forms for seeing and conceptualizing reality, and a definite scope and depth of penetration. . . . One might say that human consciousness possesses a series of inner genres for seeing and conceptualizing reality. A given consciousness is richer or poorer in genres, depending on its ideological environment. . . . The process of seeing and conceptualizing reality must not be severed from the process of embodying it in the forms of a particular genre. . . . Thus, the reality of the genre and the reality accessible to the genre are organically related.

—Bakhtin & Medvedev, 1985, pp. 131–135

Theoretical Background

When people use the term *genre* or imply its use in their discourse, they are usually referring to a relatively stable set of discursive conventions typically associated with and partly constitutive of socially ratified practices and activities. Such practices and activities include the conversation and the argument, the informal chat and the military command, the telephone solicitation and the job interview, the social science article and the deposition. Because genres entail both particular kinds of texts and practices, they also imply particular processes of producing, distributing, and receiving texts. For example, not only are diaries and legal textbooks different kinds of texts, they are also produced in quite different ways. One, for instance, is produced by an individual, the other by a collective. These two kinds of texts also have different trajectories of distribution. The former may not be distributed at all; the latter are typically distributed in specific places for specific purposes in law schools and their book stores. And these two kinds of texts are consumed in different ways and for different purposes. For instance, whereas diaries may be reread by their authors for a variety of personal reasons, occasionally shared with intimates, and almost never read by the public, law texts are routinely studied for classes, exams, the acquisition of disciplinary knowledge, and the like.

At least since Aristotle, genres have been conceived as classes of texts distinguished according to mutually exclusive and exhaustive characteristics. These formalist notions of genres separate content from form and direct one's attention toward textual products and away from textual

processes and conditions of production. Additionally, formalist views of genres foreground the reception of texts (reading/hearing) and background their production (writing/speaking). Finally, because formalist conceptions of genres are organized around structuralist dichotomies such as reading/writing, text/context, individual/society, all of which are static entities that are considered to be ontologically separate from one another, genres tend to be conceived as static and normalizing structures that constrain individuals and determine the outcomes of communicative events. According to this view, reading and writing (or speaking and hearing) are viewed as reciprocal processes of production and consumption but not as constitutive of one another; speakers and writers are often reduced to vehicles of normalizing powers; authentic speakers and writers are seen to escape socially determined generic constraints only through acts of individual genius; and contexts are viewed as static realities that are separate from and not constituted within and through texts and various material and discursive practices. In addition to critiques of this classical conception of genres generated from within sociocultural perspectives, this conception has also been attacked from Marxist sociological perspectives (e.g., Lukacs, 1971; Watt, 1957) and deconstructionist perspectives (e.g., Derrida, 1980). Both of these critiques seem inadequate but for opposite reasons. Implicit in the former is a strong form of historical determinism that would disallow multiple kinds of discursive structures to be underpinned by similar sets of social conditions. Implicit in the latter is the radically ahistorical idea that any genres

could emerge at any time in relation to any set of historical conditions.

Perhaps because theories of genre were so embedded in formalist and structuralist epistemologies, genre was a construct that received scant attention during most of the last few decades. However, there has been a recent resurgence of theoretical interest in genres, and this resurgence has begun to spawn empirical research on the comprehension, production, and transformation of genres in everyday discourse (e.g., Halliday & Hasan, 1989), media discourse (e.g., Fairclough, 1992), literary discourse (e.g., Rosmarin, 1985), academic discourse (e.g., Berkenkotter & Huckin 1993; Freedman & Medway, 1994a, 1994b), and corporate discourse (e.g., Yates & Orlikowski, 1992). The present study is situated within this research trajectory and focuses on early elementary school children's knowledge and deployment of three genres common to the language arts curricula of most schools: stories, poems, and science reports.

Largely inspired by the work of Bakhtin (1986), the resurgent interest in genres and systems of genres has been marked by attempts to criticize traditional notions of genres as classes of texts and to rethink the construct of genre in relation to the situated social practices in which discourse and texts are generated, as well as in relation to the personal histories of speakers and writers and the material and discursive histories of collectives and disciplines (e.g., Bazerman, 1997; Kamberelis, 1995a; Prior, 1994; Russell, 1997). Such an approach foregrounds genres as dynamic text-forming processes at the intersection of objective social structures, intertextual and interdis-

cursive relations, and the ongoing activity of making meaning through the enactment of text-forming possibilities. Most of this theory and research has redirected attention away from textual forms and toward the people, institutions, rhetorical situations, social contexts, specific text-making practices, and historical trajectories that together constitute genres and are, in turn, constituted by genres.

Although drawing attention to these contextual aspects of genres is clearly an essential move, one consequence of this move has perhaps been an over-elision of consideration of the textual dimensions of genres and their constitutive power. In this regard, I am often surprised by the fact that many of the strongest celebrants of heteroglossic and centrifugal characterizations of textual genres and composing practices seldom practice what they preach. What I mean here is that their essays and research reports typically bear remarkably strong family resemblances to all other essays and reports common to the books and journals in which they appear. Bakhtin (1986) provides some insight into this irony. Here and elsewhere, he argued that genres are sclerotic deposits of previous textual practices that "embody familiar and generally understood congealed old world view[s]" (p. 165) that remember past experiences and structures and that must be fully mastered to be used creatively. Genres have their own chronotopes, their own ways of fusing intention, substance, style, situation, and effect (Bakhtin, 1981). Because genres embody vast repositories of experiential and ideological knowledge, much of which is tacit, this knowledge is always partially reconstructed in new text-form-

ing practices. This reading of Bakhtin suggests that the extreme turn away from an interest in textual form or paradigm is problematic and reflects an oddly selective form of appropriation.

Bourdieu's (1977, 1990; Bourdieu & Wacquant, 1992) work on the relations between social structure and situated human activity is another useful conceptual tool for understanding the durable yet productive nature of genres. According to Bourdieu, all of social life is closely linked to historically constituted and durable structural tendencies that operate at multiple levels of social organization both horizontally and vertically. For Bourdieu, practice is the articulation point of these levels. Rendered most simply, practice arises out of the interplay between the historically objective structures of institutions (or social fields) and their psychological counterparts in individuals (or habitus). A social field is a particularly determining but dynamic set of material, historical, and social forces that prescribes its particular values and possesses its own regulative principles. These principles delimit a socially structured space in which agents struggle, depending on the position they occupy in the space, either to change or to preserve its boundaries and form. Habitus is the socially derived structuring mechanism that operates from within agents. It is durable but not fully determinative of conduct. Habitus, according to Bourdieu (1977), is

the strategy generating principle enabling agents to cope with unforeseen and ever-changing situations. . . . a system of lasting and transposable dispositions which, integrating past experiences, functions at every moment as a *matrix of perceptions, apprecia-*

tions, and actions, and makes possible the achievement of infinitely diversified tasks, thanks to analogical transfers of schemes permitting the solution of similarly shaped problems, and thanks to the unceasing corrections of the results obtained. (p. 72, pp. 82-83; emphasis in original)

As the result of the internalization of external structures, habitus reacts to the solicitations of the field in a roughly coherent and systematic manner. Though fairly resistant to change, habitus is always historically constituted and institutionally grounded and thus possesses limited agency. It is creative or inventive, but within the limits of its own structures. Finally, field and habitus are both relational constructs, and they function fully only in relation to one another.

Building on the work of Bourdieu, Hanks (1987) suggests that, insofar as genres are viewed as recurrent groupings of stylistic, thematic, and compositional features rooted in social practice, they become part of the organization of one's discursive habitus. Because social institutions tend to be relatively stable, genres tend to be reproduced over time and to change only in small increments. Genres, then, are relatively lasting yet transposable resources according to which discursive practice is constituted. In the words of Barley and Tolbert (1988), genres are "by-products of a history of negotiation among social actors that results in shared typifications which gradually acquire the moral and ontological status of taken-for-granted facts" (p. 8). At any given time within a particular field or sub-field of practice, certain genres exist and inform ongoing communication. Members within the field of practice draw on the

formal and thematic conventions of the genres to engage in communicative acts. By using (or not using, or using differently) particular genre conventions, individuals enact established genres (or modified versions of them), thus reinforcing and reproducing (or challenging and changing) these established textual forms and practices over time. In this regard, Schryrer (1994) refers to genres as *stabilized-for-now* textual/historical/cultural/social phenomena that always leave the door open a crack to dynamism and change.

As Cazden (1998) argues, discourse-oriented researchers need to begin attending simultaneously to the products and the processes of language and literacy learning. Several approaches to genre and genre learning have been developed recently that integrate a focus on social practices (processes) and a focus on textual forms (products). These include social semiotic approaches (e.g., Hodge & Kress, 1988; Kress, 1992), critical language awareness approaches (e.g., Baynham, 1988; Fairclough, 1992), and Sydney School approaches (e.g., Cope & Kalantzis, 1993; Martin & Rothery, 1980, 1981). Although scholars both within and across these approaches offer different perspectives on genres and genre pedagogy, they agree that the term genre describes the relation of the social purpose of a text to the text's structure (Cope & Kalantzis, 1993, p. 2). Texts differ structurally because they accomplish different functions in different communicative events. Following from this basic definition, these theorists have tried to bring conventions of language use into focus, to show what kinds of social situations produce and reproduce them, and to explain how certain

textual forms are often required to actualize certain meaning potentials in these social situations. From these perspectives, textual features and their analysis are important not only as linguistic exercises but for their value in inferring the social purposes of texts as well as the processes and contexts of their production. As Baynham (1988) argues, a theory of text is a key component of a theory of literacy as situated social practice. Without it, researchers can only discuss the uses of literacy without having any principled way of describing the products of these uses and their specific connections to social contexts and practices. Coe (1994) echoes these sentiments when he argues that

the aspect of genre we usually start with—the structures we can observe empirically in texts—are artifacts; and we should treat them more or less as archaeologists treat artifacts they dig up, that is, try to infer functions, to resurrect the strategies implicit in the structures and relate them to context of situation. In terms somewhat parallel to Foucault's, this leads to an archaeology of the form, the analysis of generic structures as fossilized rhetorical processes. (pp. 160-161)

There is indeed a synergistic complementarity between text-based and socially-based approaches to understanding literacy. Cope and Kalantzis (1993) argue that “social patterning and textual patterning meet as genres. Genres are textual interventions in society; and society itself would be nothing without language in all its patterned predictability” (p. 7). Some social situations, such as new age religious meetings and contemporary conversationalized media events, are emergent and heterogeneous. Texts produced within and for these situations are

often similarly emergent and heterogeneous, partially defying generic categorization and producing genres-in-the-making. Other social situations—such as legal trials, service encounters, and language arts events—are more stable and homogeneous. Texts produced within and for these situations are similarly stable and homogeneous, “with marked conventionality, which in the end make[s] [them] seem simply natural and makes [their] constructedness unnoticeable” (Kress, 1993, p. 27). The relative regularity with which social life is conducted gives rise to a parallel regularity in the texts that are produced, distributed, and consumed. Insofar as social structures are relatively stable, genres persist over time and are the products of culture, context, and history (Kress, 1989; Martin, 1991). Furthermore, genres have specifiable linguistic characteristics that are not fully controlled or determined by individual writers or speakers. Genres are durable pragmatic schemes that have evolved historically for accomplishing particular rhetorical goals in specific communicative contexts.

From the perspective just outlined, it makes sense to assume that literacy learning and teaching would involve analyzing critically the different social purposes and situations that produce and reproduce regularities and conventionalities in texts. Moreover, literacy learning and teaching would also involve analyzing genre violations for both their textual power and their power to disrupt and rearticulate regularized and regulated social patterns linked to race, class, gender, and so on. For children to understand and employ genres critically and effectively, educators

would have to achieve some productive common ground between the institutionalized culture of school and the various cultures of the students served by schools. For children to grasp new knowledge they need some control over the genres in which such knowledge is typically packaged. To develop such control requires some formal or informal instruction in genre analysis. Precisely how to teach genre analysis is always locally and culturally contingent just as whether to teach genre analysis is sociologically contingent (Luke, 1994). Equally important, then, would be to engage children in analysis and critique that help them to understand that both knowledge and genres are historically constituted and politically motivated. Freedman (1987) summarizes this paradoxical set of goals fairly well:

Knowing a genre is also knowing how to take it up: the manners are reciprocal. What do you do with a form, if you've never been taught to fill one out? What do you do with theoretical writing, if all you have learnt to read with is narrative? How do you take up parody, if you've never met the parody or the genre that it spoofs? Using a text is primarily a matter of understanding its genre and the way it plays it—recognizing it, certainly, but also reading its tactics, its strategies, and its ceremonial place. Learning to write, equally, is learning to appropriate and occupy a place in relation to other texts, learning to ensure that the other chap [sic] will play the appropriate game with you and learning to secure a useful uptake: the rules of playing, the rules of play, and the tricks of the trade. (pp. 121-122)

Gaining understanding of and competency with the forms, functions, rhetorical possibilities, and typical occasions of use of different genres is an important

part of learning how to write. Moreover, such understanding and competency become more important as children move through the educational system. Different genres make their own demands on children with respect to their formal structures, their ordering of thematic material, their conception of the nature and status of knowledge, their rhetorical functions, their social contexts, and the ideologies that inform them. These demands exert effects not only on the structures of whole texts but also on the structures and textures of sub-sentential units, sentences, and sentential combinations. Coming to understand all of these dimensions of textual organization and the co-constitutive relations among them is central to the process of learning to write generatively and effectively. And as I mentioned earlier, such understanding is not important so much for its own sake but for the insight it provides into the processes and contexts of text production, distribution, and consumption. Even more important is the fact that genre-specific communicative competence is necessary for children's long-term success as they progress through the grades (Christie, 1995; Cope & Kalantzis, 1993; Freedman & Medway, 1994a, 1994b; Heath, 1983; Luke, 1995) and move into the work place (Coup-land, 1984; Fairclough, 1992; Swales, 1990). Greater understanding of genre learning and development should help in designing classroom activities that enhance the communicative competence of all children, thus increasing their levels of school success and prospects for career success.

Purpose of the Study

Grounded in a theoretical approach to genre synthesized from Bourdieu's sociology, social semiotics, critical language awareness, Sydney School text linguistics, and socio-cultural-historical approaches to literacy, this study was guided by two basic research questions. First, given institutionally constrained and tactical homologies across classroom literacy events and practices, what differences in the working knowledge of different genres (stories, science reports, poems) are demonstrated by kindergarten, first-grade, and second-grade children in text production tasks? Second, what do children's texts and metadiscourse about their texts reveal about how genre knowledge emerges during the early elementary years? With respect to both questions, I assume that differences reflect the dynamic interplay of biological development and social and cultural mediation (Vygotsky, 1978, 1987; Wertsch, 1985).

I chose the three focal genres because—for better or worse—they constitute staples within the communities of practice of many, if not most, elementary school classrooms in the United States. Indeed, they were frequently read, discussed, and written in the classrooms used for this study. These three genres were also selected because the exemplars of them commonly used in elementary school classrooms differ fairly systematically with respect to their structural and textural features.

Focusing more heavily on texts (products) than social practices (processes) represents a departure from some of my other research, which has foregrounded the latter dimensions of genre and genre

learning (e.g., Kamberelis, 1995a, 1995b; Kamberelis & Bovino, in press; Kamberelis & Dimitriadis, in press). Yet this focus seems both warranted and productive for several reasons. First, although I agree with Luke (1994) and other critical theorists that renderings of school-based genre systems proposed by some of the critical language awareness theorists and Sydney School theorists betray problematic structuralist and instrumentalist tendencies, I am also convinced that something important is lost when scholars jettison entirely a concern for understanding the linguistic aspects of genres. Such aspects are often quite durable, especially in over-determined and over-determining social contexts such as public schools. Moreover, their durability exerts parallel constitutive effects on concomitant social practices or activity genres.

Second, as Baynham (1988), Coe (1994), Fairclough (1992), and others have shown, textual analysis can provide tremendous insights into both the processes and the contexts of text production, distribution, and consumption. Indeed, this claim is also central to the work of Foucault (1977), who developed archaeological and genealogical methods to produce such insights.

Third, quasi-experimental, text-focused studies of children's literacy development and learning provide certain kinds of knowledge that are more difficult to come by in more local and more contextualized studies of development that foreground specific scaffolding experiences within highly circumscribed communities of practice. That this is the case does not mean that development

and learning occur independent of contextual influence. On the contrary, it is because children's development and learning are influenced by so many proximal contexts beyond the classroom (e.g., recreational reading; family literacy activities; involvement in community arts, performance, music, and athletic programs; media involvement; peer activities; and so on) that it is preposterous to assume that documented aspects of development and learning result solely from certain circumscribed practices within classroom literacy events. This problem is further exacerbated when one considers the indirect and distal influences of various media and media apparatuses on children's development and learning.

Fourth, although some aspects of children's ability to produce systematic discourse are revealed in everyday situations and are captured in observational studies, more experimental methods can allow researchers to capture a fuller range of this variation. Such methods can function to create situations for children that allow them to demonstrate knowledges and strategies that they might not reveal spontaneously. They are also somewhat better at facilitating comparisons along precisely the same dimensions for all children. In relation to this general point, because the biological and the social/cultural lines of development (e.g., Vygotsky, 1987; Wertsch, 1985) seem to be much more intertwined for young children than for adults, investigating variation in the working knowledge of different genres across several grades embodies a logic common to both psychological and socio-cultural-historical perspectives.

Finally, my experience in many elementary school classrooms suggests that although there may be a considerable amount of discursive dynamism in local moment-to-moment interactions, classroom communities of practice are highly governed or disciplined (Bourdieu, 1990; Foucault, 1977) by powerful institutional norms, normalizing practices, and normalized texts. I do not mean to say here that these classrooms are non-democratic. Many are quite democratic. Rather, I mean to say that, due to institutional constraints at various levels, most elementary classrooms in the United States abide by a set of discursive expectations that are typically more durable than dynamic. This historical fact is perhaps why some critical language awareness theorists and Sydney School theorists insist so strongly on providing all children with what they perceive to be languages of access and power. Large-scale reform is painfully slow and even more painfully incremental. In the meantime, it may be most democratic to distribute discursive goods more equally, even knowing that this distribution strategy cannot guarantee a more equal distribution of economic or symbolic capital. Cast in a more positive light, it may be necessary and important for children to master certain genres—albeit stodgy ones—so that they may then deploy them creatively, critique them knowledgeably, and transform them for their own rhetorical, aesthetic, or political purposes. Such a perspective is commonly used to explain improvisation in jazz. For example, as the great jazz trumpeter Miles Davis is known to have told his band members: “You need to know your horn, know the chords, know

all the tunes. Then you forget about all that and just play” (Sanjek, 1990, p. 411). The creative integration of elements and forms in both jazz and writing requires intimate knowledge of relevant cultural tools and a highly differentiated sense of relevant traditional forms. Without having mastered these requirements, it is difficult, if not impossible, to “just play.”

The present study builds upon and extends previous theory and research on genre learning in several ways. First, it is unique in its simultaneous investigation of three central school-based genres: stories, science reports, and poems. Second, the quasi-experimental design used in this study generated findings that complement findings yielded from naturalistic designs more commonly used to study children’s genre development (e.g., Chapman, 1994, 1995; Kroll, 1990; Martin & Rothery, 1980, 1981; Newkirk, 1989). Third, this study complements and extends genre reenactment studies (e.g., Hicks, 1990; Pappas, 1991, 1993) in that children were asked to produce original texts rather than to recall and reenact familiar texts. Finally, this study contributes to the nascent and very small body of research on children’s development of poetic literacy (e.g., Dowker, 1989; Ford, 1987).

Method

Setting and Participants

This study was conducted in one intact classroom at each of three grade levels (kindergarten, first grade, and second grade) in one school. Both the first- and the second-grade programs met for the entire school day. The kindergarten program occupied the morning only. Approxi-

mately 80% of the children from each classroom participated in the study: 16 kindergarten children (9 boys, 7 girls; mean age = 5 years, 8 months), 20 first-grade children (9 boys, 11 girls; mean age = 6 years, 9 months), and 18 second-grade children (8 boys, 10 girls; mean age = 7 years, 7 months). Almost all children who did not participate in the study were either non-native speakers of English or recipients of Title I services. Four children did not participate because their parents either did not return permission slips or declined to allow their children to participate in the study.

All three classrooms were racially/culturally and socially/economically diverse and reflected the population of the community at large. Fifty-nine percent of the children in the study were White; 28% of the children were African American; 13% of the children were Asian or Asian American. About half of the children were from working-class families; the other half were from middle-class families. These distributions were quite similar across classrooms and closely mirrored those of the school population as a whole.

All three teachers in the study had worked together for 2 years creating an integrated language arts curriculum (Pappas, Kiefer, & Levstik, 1995) for their district, and they shared very similar language arts philosophies, pedagogical goals, and teaching practices. For example, all advocated child-centered pedagogy and combined whole language approaches to instruction with selective, focused, and contextualized mini-lessons on skills such as phoneme-grapheme relations, spelling, grammar, usage, comprehension, and the

writing process. Active engagement with trade books was the staple of reading instruction in all classrooms. Because of the integrated language arts focus of the school's curriculum, all three teachers involved children in reading texts representing many different styles and genres, including the focal genres of this study. Little formalized explicit instruction about any of the genres under investigation was part of the language arts curriculum in any of the classrooms. However, all three teachers sometimes discussed the basic features of different genres, albeit not always with literary metadiscourse. All three teachers involved children in writing many different kinds of texts for many different purposes, both in assigned and self-selected contexts. All three teachers also encouraged and rewarded both the acquisition and use of conventionalized school genres and experimentation with these genres for particular rhetorical and aesthetic purposes. For these and related reasons the literacy events (and their attendant ideologies and cultural mediators) that occurred on a recurrent basis in these three classrooms were largely homologous. They were also quite similar to those I have seen in many other elementary school classrooms.

Despite the fact that all three teachers shared many theoretical views and everyday classroom practices, there were some differences in the literacy activities in the three classrooms, especially with respect to skills instruction. In large part, these differences related to the fact that the teachers taught at different grade levels. The district curricula, although more

developmental than normative in character, did specify different learning goals for different grades.

In the kindergarten classroom, for example, the teacher and the children discussed books they were reading as part of language arts instruction. Most of these discussions focused on thematic content but some focused on formal aspects of texts. On a rotating basis, three children per day made presentations to their classmates in a sharing time activity. On several occasions during the year, all children composed and published their own books based on the content and styles of published books that they had read in the context of shared reading activities. These compositions included a book based on *Dr. Seuss' ABC* (Seuss, 1963), a book based on the story *The Gingerbread Man* (Nolte, 1961), a science report on a favorite bird, and a book based on one of each child's current favorite books. Most children chose narrative texts as their favorites. Besides these highly structured writing activities, children were constantly writing in their journals and composing other assigned texts, most of which were not submitted to an entire writing process cycle from prewriting through publication. Finally, the kindergarten teacher was both perceptive and magnanimous in her response to children's writing. For example, she was just as likely to praise and talk with a child for creating a text that was highly conventional as a text that was highly experimental.

In the first-grade classroom, children engaged in shared reading experiences that often involved teacher-led comprehension and discussion activities. The

teacher also conducted instructional conversations (Tharp & Gallimore, 1988) that focused on literary interpretation, text analysis, and grammar. Much like in the kindergarten classroom, all children composed several of their own books throughout the year. These books were modeled after the styles of published books that they had read. For example, children wrote their own books based on different predictable books such as Martin's (1982) *Brown Bear, Brown Bear, What Do You See?* They also wrote their own books based on Loebel's "Frog and Toad" stories. Children wrote information books about fish based on an extended study of both live fish in their classroom and books about fish. They also worked as "more capable peers" (Vygotsky, 1987, p. 86) helping the kindergarten children with their Dr. Seuss books. Finally, children read poetry books including Fleischman's *Joyful Noise* (1988) and Sendak's *Chicken Soup with Rice* (1962), and they wrote poems modeled after ones in these texts. As was the case in the kindergarten classroom, children engaged daily in both assigned and self-selected writing. They were also rewarded equally for demonstrating working knowledge of both conventional and experimental texts.

In the second-grade classroom, children were organized into literature circles in which they read and discussed books on a regular basis. Although most books were fictional narratives, children also read and discussed several biographies and many information books related both to science and social studies. Literature discussions tended to focus more on thematic content than literary and stylistic

aspects of books. Throughout the year second graders also kept reading logs and wrote book reports on books of their own choosing on a fairly regular basis. Every day, just before lunch, all children who desired to do so shared favorite jokes and riddles with the other members of their class in a sharing time format. In the autumn of the school year, all children read and discussed several poems and then wrote some poems of their own. They also wrote a biography of a famous person, a short social studies report about a Native American cultural group, and a science report on an endangered species. For about a month during the winter of the school year, all children kept a science journal on a pair of mice and their offspring, all of which were classroom pets. As in the kindergarten and first-grade classrooms, children were routinely rewarded for demonstrating working knowledge of both conventional and experimental texts. Perhaps because all students were using conventional orthography almost exclusively by now, the second-grade teacher got particularly enthusiastic about children's inventive texts.

Materials and Procedures

All data were collected in the spring of the school year. All writing sessions were conducted either by me or by a research assistant. Both of us had worked in the classrooms as participant-observers and instructional assistants all year and were well known to the children. In each of three separate writing sessions conducted by the same researcher, each child was asked to make up and compose one of three written texts designed to instanti-

ate one of the focal genres (i.e., story, science report, poem). Across the three writing sessions, each child composed a total of three texts, one text representing each focal genre. Importantly, these writing tasks were ones with which children were familiar and had experienced regularly within their language arts program. Moreover, both the genres and the topics of the tasks were cued to recent instruction in all classrooms. Because the writing tasks grew out of the *curriculum genres* (Christie, 1995) of the classrooms, they met reasonable criteria for both face validity and ecological validity.

The elicitation instructions used for all three genre sessions were exactly parallel in structure and differed only in terms of their introductions and the task requirements they specified. To insure that they were relatively felicitous, task introductions differed as a function of what other tasks children had already completed. Task requirements differed only with respect to changes in the genre specified. Each of the three writing sessions occurred on a different day. Genre order was counterbalanced. The time lag between the execution of any two sessions with any given child was never less than 3 days or more than 5 days. Task sessions were modeled after those of Sulzby (e.g., Sulzby, Barnhart, & Hieshima, 1989). During each writing session each child worked individually with the researcher in a quiet spot in the hallway adjacent to her or his classroom. After delivering the instructions for each writing task, we provided no further information about task requirements, editing, or revising. Each text was produced within a single session

of approximately 20-30 minutes. Each child was asked to read her or his text after having finished writing it. Each child was then asked to talk about the kind of text written and about where the ideas had come from for writing it. Finally, each child was asked to read the text a second time before going back to the classroom. All writing sessions were audio taped and transcribed.

Finally, I collected certain kinds of contextual data relevant to children's learning environments and experiences. For the 4 months (January through April) prior to collecting writing samples, I kept records of all assigned and self-selected reading done by children in the classroom and at home. During the entire school year, I kept records of children's assigned and self-selected writing in school. All teachers provided me with their lesson plans and reflective teaching journals for the entire school year. I also conducted weekly observations in all classrooms and inscribed what I observed in field notes. Finally, I conducted interviews with children that focused on their sources of knowledge of different genres (e.g., Where do you usually learn about science and science books?).

Measures of Genre Knowledge

Based on previous theory and research, I selected a subset of possible features to analyze to understand children's emergent understanding and production of different genres. Selected features met three criteria. First, they were simple and salient ones that children were beginning to understand, analyze, and use. This criterion is particularly important in a de-

velopmental study. Second, these features or feature sets were distributed differentially across different genres in relatively unambiguous ways. Third, these features or feature sets represented different dimensions of genre organization. Some were textural features; some were features of text register; some were structural features. Textural features typically operate at the sentence or inter-sentential level. Register features also operate at the level of the word or sentence and mark the field, tenor, and mode of the text's discourse. Structural features operate at the level of the whole text and are instrumental in accomplishing the text's purpose (Halliday & Hasan, 1989; Pappas et al., 1995). The features selected for analysis were clustered into these three category sets.

Text Texture (Textural Features)

Words per clause. The first textural feature that I analyzed was words per clause, which is a simple measure of the lexical and syntactic density of texts. As Biber (1988) and Halliday and Hasan (1976) have shown, more complex texts tend to be more lexically and syntactically dense. Within-clause density is accomplished by a variety of means (e.g., prepositional phrases, attributive adjectives, adverbial phrases). Although not conclusive, evidence from writing research with young children has shown a positive relationship between lexical and syntactic density and raters' perceptions of overall writing quality (Huot, 1990). Because young children are working to sort out differences between oral and written registers (e.g., Sulzby, 1986), evidence from research on the oral-written language continuum is

even more relevant here. This research has shown that complex lexicons and syntactic structures are more common in highly integrated written discourse compared to highly involved oral discourse (Biber, 1988; Chafe, 1982; Scinto, 1986; Tannen, 1982). Finally, lexical and syntactic density may have a detrimental effect on some kinds of texts (e.g., poems) where there is a premium placed on streamlining messages (e.g., Friedrich, 1979, 1986).

Verb tense. A second textural feature that I analyzed was verb tense. In addition to marking time, verb tense is also used to index characteristic or habitual activities versus particular and completed ones. Finally, verb tense may index the relative concrete and historical nature of certain events or processes versus the more abstract and universal nature of others. Based on functions such as these, past-tense verbs tend to predominate in narratives and present-tense verbs tend to predominate in informational texts. Poetic texts exhibit more complex patterns of tense variation depending on whether they focus on concrete experiences or abstract concepts.

Temporal connectives. Another textural feature that I analyzed was temporal connectives including sequencers (e.g., *and, then, and then*) and more complex temporal connectives (e.g., *next, one day, later, before, finally, after, when, meanwhile*). Like verb tense, temporal connectives function to define the temporal organization of texts and thus tend to be found more often within narrative discourse than expository discourse. Their presence

in poetic texts depends largely on topic and theme.

Logical connectives. I also analyzed texts for the presence of logical connectives (e.g., *although, because, so, in order to, hence, therefore*), which index purposes for actions, reasons for actions, and results of actions. As Labov (1972) has demonstrated, logical connectives are used in stories to highlight the significance of particular agents, actions, and effects, thus contributing to the rhetorical and literary effectiveness of such texts. Because they function in this way, logical connectives tend to occur in the stories of expert speakers and writers more often than in the stories of novices. Logical connectives are also quite common in informational texts. Within this discursive context, they tend to index the reasons for or the results of general or universal characteristics or processes, as well as logical relations among entities in the world. As with many other textural features, the presence of logical connectives in poems is more topic and context dependent and thus less predictable.

Text cohesion. Cohesion is a complex linguistic phenomenon that indexes both the relative particularity and generality of textually rendered topics and themes, as well as the degree to which agents, patients, attributes, locations, or activities are connected across stretches of extended discourse. Halliday and Hasan (1989) have argued for three distinct kinds of cohesive devices (*co-reference, co-classification, and co-extension*) and have articulated many of the ways in which the differential use of these devices relates to genre.

Co-reference is a linguistically articulated semantic relationship of situational identity of reference. Co-referential ties connect tokens that refer to the same particular entities, attributes, or activities across textual space (e.g., *Mick Jagger is a rock musician. He is famous for his raw sexual energy and his longevity in the rock 'n' roll world.*)

The second kind of cohesive device posited by Halliday and Hasan (1989) is co-classification, which may be defined as a linguistically articulated semantic relationship wherein the things, processes, and circumstances are characteristic of all members that belong to a certain class or category. Co-classification ties, then, link either general tokens or different tokens of superordinate categories because of their identical relationships to those categories. *Piranhas, predatory fish, and predators* are examples of co-classification tokens in the following sentences: *Piranhas are predatory fish. Such predators pose threats to swimmers.*

The third kind of cohesive device articulated by Halliday and Hasan (1989) is co-extension, which may be defined as a linguistically articulated semantic relationship wherein two tokens refer to something within the same general field of meaning. The example of co-extension they provide is: "I had a little nut tree / Nothing would it bear / But a silver nutmeg / And a golden pear" (p. 73). In this verse "silver" and "golden" exhibit a general resemblance but their primary class affiliations are not identical. Because my data contained so few instances of co-extension, I did not analyze children's texts for the relative presence of this variable.

Different cohesive relations are indexed by particular lexical and grammatical forms. For example, relations of co-referentiality are typically constructed with pronominals, definite articles linked to individual nouns, demonstrative determiners, and possessives. By contrast, co-classification relations are usually constructed with nominal and verbal repetition, substitution, and ellipsis. Finally, variation in these different kinds of cohesive devices and the particular lexical and grammatical forms that constitute them is often genre related. For example, stories typically contain an abundance of co-referential chains composed of nouns (especially pronouns) that allow the reader to maintain an understanding of a particular referent: a character, place, or object. Information books, by comparison, typically contain few co-referential chains. Rather, they contain co-classification chains that specify continued reference to classes of objects or living things. Poems, to provide a further comparison, may embody co-referential chains, co-classification chains, or a combination of the two in cases where they forge connections between the more particular and the more universal.

Text Register

Specialized narrative discourse. Because of their different functions and contexts of use, particular kinds of texts are distinguished by their use of specific forms of wording, syntax, and formulaic phrasing (e.g., Berman et al., 1986; Biber, 1988; Hasan, 1989). For example, phrases such as *once* or *once upon a time, in a galaxy far far away* or *there was a girl who lived in the woods, and the end* are found almost

exclusively in stories and tales. Such phrases, which I refer to as *specialized narrative discourse*, typically function both to mark texts as narratives and to place textual events in the past.

Biological terminology. Scientific lexical items and phrases (e.g., *gills, respiration, carnivorous, osprey, bear live babies, have many rows of teeth*) are more common to scientific (biological) texts than narrative or poetic ones. Such forms of discourse, which I refer to as *biological terms*, foreground the timeless and universal nature of the attributes and events to which they refer.

Poetic devices. Poetic devices or tropes foreground the aesthetic or poetic quality of texts. Tropes typically violate conventional or unmarked phonological, syntactic, and semantic rules or expectations, thus intensifying the form of linguistic messages (Berman et al., 1986; Friedrich, 1979; Tannen, 1989). Well-known examples of poetic tropes include rhyme, repetition, assonance, alliteration, imagery, simile, and metaphor. Different tropes operate at different levels of linguistic organization. Assonance and alliteration, for example, operate primarily at the level of sound. Repetition operates at the level of syntax. Metaphor and simile operate at the level of semantics. And rhyme operates simultaneously at the levels of sound and syntax. These and other tropes tend to be extremely common in poetry, somewhat common in narratives, and much less common in expository prose.

Text Structure

Text structure is not determined by iron-clad rules. Moreover, many rhetorically

powerful texts (e.g., Nabokov's *Pale Fire* or Williams's *Patterson*) represent creative amalgams of many text types. Nevertheless, typified or prototypic texts that tend to occur in typified rhetorical situations may be characterized according to the overall hierarchical organization of clauses within them (Cope & Kalantzis, 1993; Derewianka, 1990; vanDijk & Kintsch, 1983). The organization of clauses in different text types varies in terms of the kinds of linguistic and discursive elements included, the relative frequencies of these elements, and the hierarchical organization of the elements. These differences are a function of the purposes of the texts or how they accomplish certain rhetorical or communicative ends.

Narrative text structure. Although researchers have shown that there can be considerable cultural variation in narrative structure (Cazden, 1988; McCabe & Peterson, 1991; Michaels, 1991), reading and language arts programs in most U.S. classrooms continue to traffic primarily in stories with a fairly typical western canonical structure of the sort described by many story grammarians (Hasan, 1989; Pappas, 1991, 1993; Pappas et al., 1995; Stein & Glenn, 1979). Using a systemic-functional model, Pappas and her colleagues argued that there are several basic elements that must be present in a text for it to be a story. They refer to these as obligatory elements. In addition to these, there are optional elements that may or may not be in stories or that may be characteristic of certain kinds of stories only. The following list shows the elements of a story and how they are typically organized:

Placement: The author may introduce the setting of the story and the characters, provide some locale or historical reference, describe traits or typical activities and attitudes of characters, and so on. (Optional)

Initiating Event: The conflict or problem in the story emerges. (Obligatory)

Sequent Event: A recounting of the character(s) attempts to resolve the problem or conflict. (Obligatory)

Final Event: The conflict or problem is resolved or not resolved. (Obligatory)

Finale: A restoration of the habitual or normal state of affairs or the establishment of a new and usually better state of affairs. (Optional)

Moral: A moral statement or claim is made. (Optional)

These structural elements and this structural organization are related to how stories function in Western culture (and most cultures for that matter). Stories function to cultivate personal and interpersonal understandings: what motivates characters, how different characters interact, how their goals and plans to accomplish those goals mesh or conflict, and so on. The inclusion and hierarchical organization of the structural elements just discussed allow narrative genres to shape their messages so that inferences about human (and other animate) beliefs, attitudes, motivations, purposes, and the like can be expressed.

Informational text structure. In contrast to most narrative genres, informational genres do not typically involve specific characters, goals, motivations, etc. Rather, they involve describing characteristics and behaviors predicated on a particular event or set of events, class of objects, or class of agents. As a result of this different set of intentions, they have different global structures. Although not nearly as well theorized and researched, structural aspects of informational writing have been investigated by a number of researchers (Langer, 1986; Meyer, 1975; Pappas, 1991, 1993; Pappas et al., 1995). With its grounding in systemic-functional linguistics, Pappas' text grammar for information reports, which contains both obligatory and optional elements, is particularly apt for this study. Below is an outline and a set of descriptions for these elements:

Topic Presentation: The topic or theme of the text is presented or introduced. (Obligatory)

Description of Attributes: A description of the attributes of the class or topic of the text is presented and elaborated. (Obligatory)

Characteristic Events: Characteristic events, activities, or processes related to the topic are expressed, discussed, or explained. (Obligatory)

Category Comparisons: Comparisons and contrasts about different members of the class or topic that the text is about are presented and explained. Sometimes comparisons or contrasts to other related

topics or classes are introduced. (Optional but common)

Final Summary: Summary statements are made about the information covered in the text. (Obligatory)

Afterword: Extra information about the topic or theme is presented. (Optional)

Operating together, these structural elements function to introduce, describe, and elaborate upon characteristics and behaviors predicated on a particular event or set of events, a class of objects, or a class of agents. They render a sense of the factual, the general, and the universal, and they do so in a matter-of-fact manner. Unlike stories, which encourage the reader to infer intentions, motives, attitudes, and feelings on the part of agents, actions, and patients, information reports encourage an objective view of these text elements and what they represent.

Poetic text structure. Discussing the structure of poetry is more difficult than discussing the structures of narratives or informational texts. Certain forms of poetry must adhere to strict text grammatical rules for verse structure, rhyme, and meter. Other forms of poetry, however, have no presupposed text grammatical rules, although it is often possible through literary analysis to discover (or perhaps construct) the architecture of a given poem after the fact. To my knowledge, no general set or sets of structural descriptions have been written for poetry that are comparable to the kinds of text grammars created for stories and informational texts. Moreover, separating textual aspects of poems from structural

aspects is more difficult than separating them for stories or information reports.

Nevertheless, three structural features are frequently mentioned by theorists of poetic language (e.g., Friedrich, 1979, 1986; Tannen, 1989). These are line structure, stanza structure, and rhythm or meter. Line structure refers to the fact that the fundamental organizational unit of poems is the line rather than the sentence. For example, sentences within poems are often broken up into two or more lines in order to achieve particular rhetorical and aesthetic effects. A second fundamental structural feature of poems is stanza structure. Lines within poems are typically organized into stanzas rather than paragraphs. Much like lines, stanzas tend to mark the content within them as both distinct from and related to that of adjacent stanzas. A third structural feature that tends to characterize most poems is rhythm or meter. Indeed, Friedrich (1979, 1986) has argued that meter is the master trope of poetic discourse. Basically, meter refers to patterns of measured sound units that recur in fairly regular ways.

I already mentioned that the structural features of stories foreground the intentions, motives, and feelings of characters while the structural features of informational texts foreground factual, general, and universal aspects of a natural and cultural process. In contrast, the structural features of poems function primarily to involve the reader in both the medium (language) and the message (content) of the poem. These features draw attention to the poetic text as an aesthetic object, and they help the reader imaginatively participate in the

textually rendered world of the poet, thus forging connections between their experiences.

Coding and Analysis

As I already mentioned, all first- and second-grade children composed their texts using readable invented spelling or conventional orthography. Some kindergartners, however, wrote their texts using non-phonetic writing systems (e.g., drawing, scribble, non-phonetic letter strings). When children composed texts with invented spelling and conventional orthography, I used their actual texts for coding and analysis. When children composed texts with non-phonetic writing systems, I used their readings of those texts for coding and analysis.

I conducted descriptive analyses of a subset of the children's texts to get a sense of the range of texts produced by the children within and across grade and genre. I also used these analyses to document the variation and richness of the texts produced and to facilitate the interpretation of the quantitative analyses of texts, which are described next.

Following Berman et al. (1986), I segmented children's written texts into clauses. According to Berman et al.'s segmenting procedures, any stretch of extended discourse containing a verb phrase (including elided verb phrases) is counted as a clause. Once the texts were segmented into clauses, they were coded by two researchers for the textural features, register, and structural features previously described. For textural features and register, tokens of feature types were coded and ratios of tokens per clause were computed. However, this

procedure was not possible for structural features because they are not continuous variables. Therefore, we coded structural features using a dichotomous scale and computed percentages of obligatory structural features for all focal genres. Using 25% of the coded data and Cohen's Kappa as a measure, inter-judge agreement for coding textural features, register, and structural features was .91.

Because certain dependent variables were correlated with others, I grouped variables into three logical sets (textural features, registers, and text structure). These sets were analyzed through a Multivariate Analysis of Variance (MANOVA). For these analyses, grade and gender were between-subjects independent variables; genre was a within-subject independent variable. Univariate repeated measures Analyses of Variance (ANOVA) were then conducted on all dependent variables that produced significant main and/or interaction effects in the MANOVAs. Because there were no main effects or interactions involving gender, this independent variable was not included in the univariate analyses. This tiered approach to data analysis provided some protection against Type I errors.

I ran Scheffé post hoc comparisons for the between-subject main effect (i.e., grade). Paired contrasts, using one-way analyses of variance, were conducted for the within-subject main effect (i.e., genre). When interactions occurred, I conducted one-way analyses of variance with Scheffé post hoc comparisons to determine grade-level differences within each genre. Additionally, paired contrasts, using one-way analyses of variance, were

conducted to determine genre differences within each individual grade. Significance levels for all post hoc analyses were set at .017, which is recommended according to the Bonferroni adjustment for independent variables with three levels.

Results

Interpretive Analyses of a Subset of Children's Texts

Nearly all of the children in the study responded willingly to requests to produce stories, science reports, and poems, but they exhibited considerable variation in the ways in which they instantiated these different kinds of texts. Some texts were prototypic of the genres that they were supposed to instantiate and deemed exemplary by the children's teachers, their peers, and me. Others were atypical and deemed rhetorically problematic by teachers, peers, and me. Most of these atypical texts had a narrative quality despite the fact that they were produced in response to requests to write either poems or science reports. Some atypical texts, however, resembled what I refer to as hybrid genres. These texts often incorporated several features typical of two or more different genres. The rhetorical power of these texts varied widely. Whether children wrote hybrid texts with the intention of pushing the limits of traditional genre conventions and distinctions, or by chance, or as a function of inchoate and/or coalescing genre knowledge was seldom apparent. To partially demonstrate the range and the flavor of the texts produced in this study, for each genre I will present and interpret one example of a prototypic/exemplary

text, one example of an atypical/rhetorically problematic text, and one example of a hybrid text.

Stories

Most of the children in the study produced reasonably well-formed stories in response to the request to write a story. Figure 1 demonstrates an example of an exemplary story written by Nicole, a second-grade child. In addition to having the basic look and sound of a children's story, Nicole's text embodied many of the textural features typically found in stories (e.g., past-tense verbs; noun phrases that index particular agents, patients, and actions; co-referential chains), incorporated all of the structural elements that typify stories (initiating event, sequent event(s), final event), and included a number of other optional elements (e.g., placement, felicitous character introduction, finale).

In response to interview questions about why her text was a story and not some other genre, Nicole replied, "Because, well, it's not really true, and it has a setting, a problem, and how they solved it. It's about a dog, and in the last three pages it talks about the baby being lost." Nicole's response suggested that she differentiates between genres categorically (i.e., fiction, non-fiction), and that she has developed explicit knowledge of many of the structural features requisite in stories. Such explicit knowledge may have contributed to her ability to produce an exemplary story.

Nicole's story was recognized by her teacher and her classmates as a very good story. Moreover, the teacher focused on Nicole's story in a discussion of the problem-solution complexes of narratives. A

Original Manuscript

there once was
1 a dog named spot
he was a good
dog but he did not
like when kids pulled
his hair one day his
owners wife had a
Baby then a year
past the Baby was older
and spot had grown

4-3 By water two days
they spent searching for
her but then the dog
stopped they thought
that he was just tired
But then spot remembered
she was visiting her
Grandmas he took off running
to Grandmother's house when
they got there she was there
and they all said she was

2 the 1 year old baby
got lost her parents were
scared and saw was her
brother they looked a
round then they forgot the
dog he can surely
find her (the first day)
they searched for
hours they stopped
at many stores 2

there all a
long he did it
he remembered.

and they lived
happily ever after

4

Child's Reading of Original Manuscript

There once was a dog named Spot. He was a good dog, but he did not like it when kids pulled his hair. One day his owner's wife had a baby.

Then a year passed. The baby was older and Spot had grown. The one-year-old baby got lost. Her parents were scared and so was her brother. They looked around. They thought, "The dog! He can surely find her."

(The first day) They searched for hours. They stopped at many stores to buy water. Two days they spent searching for her, but then the dog stopped. They thought that he was just tired, but then Spot remembered she was just visiting her Grandmother's. He took off running to Grandmother's house. When they got there she was there and they all said, "She was here all along! He did it! He remembered!"

And they lived happily ever after.

Figure 1. Nicole's prototypic/exemplary story.

key conclusion of this discussion was the idea that, despite the fact that many one-year-old babies are not mobile enough to visit their grandmothers, the problem-solution complex in this almost-believable tale with a precocious baby, an omniscient dog, and a happy ending worked pretty well to build and relieve suspense.

Figure 2 provides an example of an atypical/rhetorically problematic story. This text was composed by a kindergarten boy named Michael. In contrast to Nicole's story, Michael's story exhibits few of the features typically associated with narrative discourse. It is cast in the present tense rather than the past; it makes little use of cohesive devices of any kind; and it reads much more like a list of facts (or perhaps a list of initiating events) than it does a temporally organized and causally related set of actions and events. The list-like quality of this story may have been due to the fact that Michael read his story from a drawing, which constituted his written text. In this regard, his reading resembled what Sulzby (1985) has called *following the action*. Although other children in the study also read from their drawings in this way, some children produced well-formed and often quite elaborate narratives when reading from their drawings.

When asked why his text was a story rather than a poem or an information report, Michael replied, "Um, well, it's funny, and it doesn't rhyme." He did not elaborate on this response when probed. Although Michael exhibited some knowledge of rhetorical and literary terminology in his response, he seemed only to have a nascent sense of the relation-

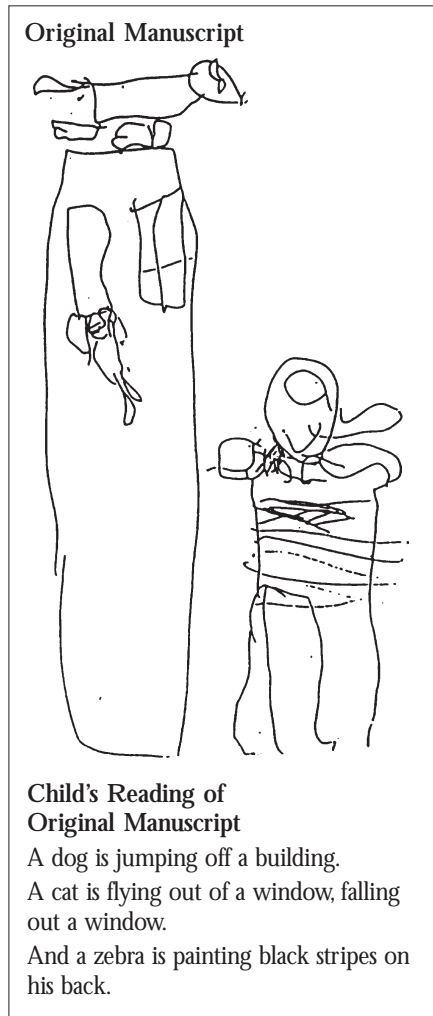


Figure 2. Michael's atypical/rhetorically problematic story, which seems more like a list of loosely connected actions.

ships between rhetorical and literary features and generic forms. However, his explicit knowledge of these features, his awareness of how particular features fit with certain text types, and his knowledge of whether certain features actually serve to distinguish particular genres appeared to be just emerging. The na-

scient state of his explicit genre knowledge may have been partially responsible for Michael's difficulty in producing a prototypic story.


Almost no hybrid genres were produced in response to the request to write a story. One of the very few is represented in Figure 3. This story was produced by a kindergarten child named Melissa. It incorporates features typically associated with several different genres. It begins with a formulaic opening ("once upon a time") characteristic of many children's stories, but it quickly turns into a list or perhaps an attribute series (Newkirk, 1989) with elided verb phrases. As a set of propositions, this text might be written: I saw one deer; I saw two bears; I saw three bunnies; and so forth. Such a rendering suggests that Melissa actually wrote a past-event personal narrative, an interpretation that was partially supported by some of her interview responses. When asked why she decided to write

this story, Melissa replied, "Well, um, I went to the zoo and saw some of the animals, and I have a dog and a cat, and my sister has a cat, and my other sister has a cat, and my brother has a cat, too." Gathering together both textual and interview data, Melissa seems to have combined *knowledge telling* strategies (Bereiter & Scardamalia, 1987) with strategies for cobbling together her partially undifferentiated knowledge of fairy tales, essays, and personal narratives to accomplish the task at hand as effectively as possible.

Science Reports

Although most children in this study composed prototypic stories, fewer children produced prototypic science reports, and very few produced exemplary reports. Teddie, a first grader, was one of the children who did compose a prototypic/exemplary science report. His text is displayed in Figure 4, and it resembles the sort of text one might find

Original Manuscript



Child's Reading of Original Manuscript

Once upon a time there was one, what is it called? There was one deer, and there was two bears, and there was three bunnies and four little turtles, and four cats, and a dog, and there was three snakes and a alligator. And that's all I can think of.

Figure 3. Melissa's hybrid story, which was written in the story task situation but seems to combine elements from fairy tales, recounts, and informational texts.

in a children's animal encyclopedia or a science book written for children. It contains textural elements common to the information report genre (e.g., present-tense verbs, noun phrases that index categorical entities, co-classification chains). It also contains three of the four structural elements that Pappas et al. (1995) consider obligatory in information reports (topic presentation, descriptions of attributes, characteristic events). Additionally, the report has some appropriate and rhetorically effective category comparisons. Although Teddie ended his report with a formulaic element more typical of stories ("The end"), this feature does not really detract from the overall rhetorical effect of the text. It remains an information report, albeit one with a narrative cap.

When asked why his text was a science report instead of some other type of text, Teddie said "because it has a lot of 'fish' words [in it] and like all different kinds of important words." By "fish words" and "all different kinds of important words" Teddie seemed to mean technical or scientific lexical items that are common within scientific texts. However, he did not elaborate upon his response enough to confirm this inference. Although Teddie did not use precise technical vocabulary, his response seemed to indicate that he had some knowledge of such language, and he certainly brought this knowledge to bear when he wrote his report.

Teddie asked me if he could keep his report almost as soon as he finished writing the last word. I made him a copy, which he further revised a couple of times. His final draft was included in

Original Manuscript

*f.i.s.h. h.a.f. g.i.l.l.s. B.u.t. w.e. d.o.n't. h.a.v.e. l.u.n.g.s.
w.e. h.a.v.e. l.u.n.g.s. f.i.s.h. l.i.v.e. i.n. w.a.t.e.r. h.a.f. e.y.e.s.
B.e.c.a.u.s.e. w.e. l.i.v.e. o.n. l.a.n.d. a.n.d. f.i.s.h. l.i.v.e. i.n. w.a.t.e.r. g.u.p.p.i.e.s. f.e.m.a.l.e.s. a.n.d. m.a.l.e.s. a.r.e. d.i.f.f.e.r.e.n.t. c.o.l.o.r.s.
A.l.l. k.i.n.d.s. o.f. f.i.s.h. e.a.t. s.m.a.l.l. f.i.s.h. a.n.d. e.g.g.s.
B.i.g. f.i.s.h. e.a.t. s.m.a.l.l. f.i.s.h. a.n.d. e.g.g.s.
B.a.b.y. g.u.p.p.i.e.s. a.r.e. b.o.r.n. a.l.i.v.e. a.n.d. t.h.e.y. a.r.e. n.o.t. b.o.r.n. i.n. e.g.g.s.
T.h.e. e.n.d.*

Child's Reading of Original Manuscript

Fish have gills but we don't have lungs. We have lungs. Fish don't have lungs because we live on land and fish live in water. Guppies, females and males, are different colors. Fish have backbones. Fish have scales. You could count them to learn how old they are. Different kinds of food are for different kinds of fish. Some fish eat plants. Big fish eat small fish and eggs. Baby guppies are born alive, and they are not born in eggs. The end.

Figure 4. Teddie's prototypic/exemplary science report.

an anthology of reports about various animals that his teacher assembled and kept in the class library. Along the way, both his teacher and his classmates responded to the report. Most offered praise for how much accurate information it contained. It was referenced by the teacher a couple of times as an exemplary report that other children might use as

models for their reports. One child asked Teddie why he thought that someone could tell the age of fish by counting their scales. He responded that he was not sure why he had written that and that it may be rings on fishes that one counts. After conducting more research, Teddie said that he had probably gotten the idea from an information book on trees. He was no longer sure that counting fish scales yielded information about their ages, and he edited that piece of information from his report.

A number of children, especially the younger ones in the study, responded to the request to produce science reports by composing texts that were more like stories than any other genre. Nathan, a second-grader, was one of these children. His science report appears in Figure 5. Besides reading more like a story than a science report, Nathan's composition contains many textural features typically

found in stories (e.g., past-tense verbs, co-referential chains). Moreover, the text seems to contain two of the three structural elements that typify stories (initiating event, sequent event) but none of the structural elements that typify information reports. Alternatively, one might argue that the list of activities engaged in by the three rhino boys almost resembles a set of characteristic events, which typify information reports. However, because these events were predicated on the actions of particular characters and because they were typically cast in the past tense during the child's reading of the text, they were coded as sequent events rather than characteristic events.

In response to the question about why his text was an information report rather than some other kind of text, Nathan said: "A report on rhinos is about rhinos. They do this stuff. They play a long, long time. They sleep a long time. They sleep a long time.

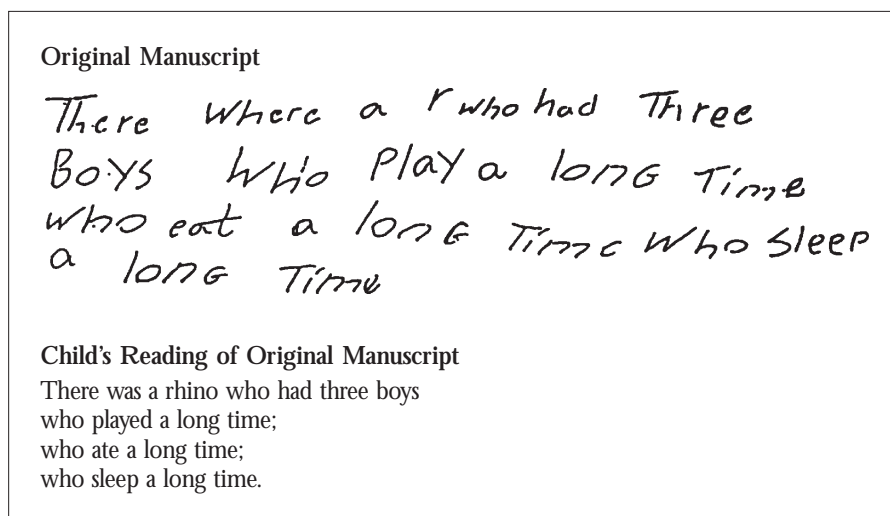


Figure 5. Nathan's atypical/rhetorically problematic science report, which seems more like a children's story with occasional hints of informational prose.

They eat a long time, too.” Because Nathan was not always able to articulate exactly what he meant, I took this statement to mean that he thought he had written about rhinoceroses as a phylogenetic class. Later in the interview he justified his text as a report by comparing it with poems and stories: “Also, see, rhinos are endangered, and poems are sweet like ‘Roses are red/Violets are blue,’ and, um, stories aren’t. And stories have characters in ‘em.” Nathan’s responses to probes about why his text was an information report were complex and illuminative. Importantly, the information report task was the first writing task he completed, so his comparisons with poems and stories were not cued by previously completed tasks. Nathan’s conceptions both of genres and of the rhetorical features used to distinguish different genres thus seemed rooted in more generalized sets of experiences. He argued, for example, that his text could not be a poem because poems are about nice things, and endangered species are not nice things. He also argued that his text was not a story because it was about rhinos (apparently a class term in this usage) and did not contain characters. Yet a comparison of his actual text with his talk about his text suggests that he was operating with conflicting knowledges about different genres and the features that distinguish them. He claimed, for example, to have written a report about rhinos as a class of animals. Later in the interview, however, he provided an explanation that conflicted with this one: “It’s a story because it has characters, and there’s a problem—they’re endangered.” Moreover, his text was

about four quite specific rhinos. In sum, Nathan’s sense of the information report as a distinct genre seemed to be emerging when he wrote his rhino report, and it appeared to be somewhat conflated with his sense of narrative genres.

A few weeks after writing this report, Nathan wrote another report for an endangered species writing assignment in his classroom. This report was more specifically about black rhinoceroses. According to Nathan, he got the idea for the report from a Discovery Channel program he had watched. His second report also contained a mix of narrative elements and information report elements. Although his teacher suggested ways to increase the informational elements and decrease the narrative ones, his report did not change much from initial to final draft. Although speculative, it is worth mentioning that the particular cultural model that Nathan appropriated and re-deployed to write this report could have influenced its texture and structure. Documentaries about animals produced by National Geographic, Discovery Channel, and similar distribution apparatuses often embed scientific information within narratives of science and scientific discovery (Myers, 1990). If these media events are key sites for learning about information reports (and I provide evidence below that suggests they are), then it is not surprising that children’s science reports bear family resemblances to them.

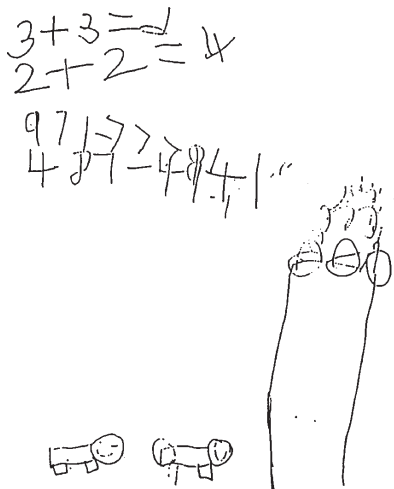
A small but significant number of texts produced by children in response to the report-writing task (as well as the poem-writing task) were hybrid genres. The genres from which the children

borrowed linguistic features to create these hybrid genres included the three genres that were the focus of this study plus several others. Quite a few children produced texts that combined features from the requested genre with features more typical of stories. Several children imported features from genres not typically associated with school-based genres. One text of this kind was written by a kindergartner named Denise. Denise's science report is shown in Figure 6.

The report begins much like an *on-line event cast* (Hicks, 1990) in which the narrator is telling the audience about an event that she is witnessing. Perhaps implicitly, she stated an initiating event or problem. Next, Denise provided a solution to the problem cast in a discourse style that seemed to derive from a media advertisement, infomercial, or public service announcement. As I listened to Denise read her story, I almost expected to hear a pronouncement related to calling 911 or to hear even clearer echoes of intertextual links to relevant media messages. Indeed, Denise's report contains information that is useful for dealing with a particular sort of problem. However, neither this information nor the discourse style in which it is cast is typical of school-based science reports or even school-based information reports more broadly conceived. Denise seems to have borrowed thematic and structural aspects from several genres related to the acquisition of useful information, but the hybrid genre she created is quite different from a typical science report written in school.

When she was asked to justify classifying her text as a science report rather

Original Manuscript



3 + 3 = 6
2 + 2 = 4

9 7 1 7 7 7 8 4 1
4 8 7 4 1

Child's Reading of Original Manuscript

There's a cat and a dog out chasing each other on the lawn.
Call collect.
Start calling now if your cat and dog ever do this.
And please call this toll-free number.

Figure 6. Denise's hybrid science report, which was written in the science report task situation but seems to combine features from on-line event casts, infomercials, and public service announcements.

than some other kind of text, Denise told me, " 'Cause it's got numbers in it." Even with probing, she did not elaborate on this response. One may only guess exactly what she meant. She may have meant that numbers and especially certain kinds of numbers (e.g., toll-free ones) are valuable resources for specific types of information. She may have differentiated all or most genres according to a simple fact/fiction dichotomy. She may have associated the task of writing a report with

the work that news reporters do. I am inclined to think that all three of these factors may have been at play. It seems plausible to suggest that Denise framed the task within a fact/fiction distinction; she activated her interdiscursive knowledge (Fairclough, 1992) of informational genres from popular culture (e.g., commercials, public service announcements), which are somewhat distant cousins to the informational genres that are more typical of school-based discourses; and she went about the business of being a news reporter.

Poems

As was the case with information reports, some children produced remarkably sophisticated poems, while others produced poems that were not always even recognizable as poems. Probably the most sophisticated poem in the corpus was written by Keisha, a second-grade child. Keisha took great pride in her linguistic prowess. She wrote many stories and poems both at home and at school. She frequently sought out adult reactions to her writing. Throughout the year, Keisha engaged in a friendly competition with another child in her classroom for informal recognition as the class's poet laureate, and her teacher frequently displayed her work on the bulletin board outside the classroom.

Keisha's poem appears as Figure 7. Although rhyme was the primary feature of most children's poems, Keisha built her poem out of more subtle and complex literary tropes. She organized her poem according to a specific line structure, a sophisticated accomplishment for a child her age, or, indeed, for a child much older

than she. She also constructed a meter pattern that is complex and pleasing to the ear. She used three similes in as many clauses. And she created rich patterns of assonance (like . . . white . . . shining) and alliteration (looks like). Finally, Keisha's poem contains rich imagery, a feature that Tannen (1989) hailed as essential to poetic language.

When asked why her text was a poem rather than a story or an information report, Keisha replied, "Poems can rhyme, but they don't have to, and this one doesn't rhyme. . . . But it has a beat, and it describes exactly what my fish looks like." Keisha's understanding and use of literary terms, as well as her sophisticated sense of the optional nature of rhyme in poetry, suggest that she possessed a wealth of explicit knowledge

Original Manuscript

My fish has a body like a small peice
of gold.
And his eyes looks like a white bolbe
shinning.
And his tail looks like a duck
swaming upside down.

Child's Reading of Original Manuscript

My fish has a body like a small piece of
gold.
And his eyes look like a white bulb
shining.
And his tail looks like a duck
swimming upside-down.

Figure 7. Keisha's prototypic/exemplary poem.

about poetic language and the poem as a distinct genre. While she did not produce precise literary language to describe the presence and function of imagery in her poem, Keisha was clearly aware of having created an imagistic text.

Many children in the study composed poems that depended heavily on rhyme and sing-song meter patterns for their poetic effects. Some children, however, had a difficult time with the poem-writing task. Like the children who had difficulty with the report-writing task, these children tended to produce texts that were more like stories than poems. Jennifer, a second grader, wrote a poem of this sort. Her text appears in Figure 8. Although one might argue that Jennifer imbued her poem with a nascent sense of meter and some alliteration (because . . . nose . . . stuck), the text contains no other poetic devices. Additionally, it

embodies several features commonly found in stories. For example, the text is cast in the past tense; it employs co-referentiality throughout; and it has all of the three structural elements that are typical of stories.

In response to the question about why her text was a poem rather than a story or an information book, Jennifer said, "I don't know. I got this poem out of a book. It has animal poems in it. . . . There was a fox getting messed up in a gate in a poem called 'The Fox Getting His Nose Stuck,' and I thought of a baby bunny getting stuck." I am not sure why Jennifer mentioned getting the idea for her text from a book of poems. The book that she referred to is a book of animal stories and not a book of animal poems. It may be that although Jennifer knew the names of different kinds of texts, she did not really know how they

Original Manuscript

The BABBY, BUNNY, ran away He jumped
 over the gate, in, to the WOODS He,
 got in trouble, The Dad had to
 catch him because his
 nose, stuck.

Child's Reading of Original Manuscript

The baby bunny ran away. He jumped over the gate into the woods.
 He got in trouble. The Dad had to catch him because his nose was stuck.

Figure 8. Jennifer's atypical/rhetorically problematic poem, which seems more like a simple children's story.

were different from one another. In the absence of substantive knowledge about the textures and structures of different text types, the story may have functioned as a default genre for Jennifer. Indeed, she provided some evidence for this inference on other experimental tasks, in response to classroom assignments, and in her journal writing. When Jennifer was asked to write an information report, she produced a very well-formed story with a moral about why bunnies should not go into the woods alone. Her rationale for why this text was a science report was “because it teaches you an important lesson.” Finally, many entries in Jennifer’s journal were short stories with illustrations.

Chris, a first-grade child, produced a hybrid genre in response to the request to write a poem. His text, which is displayed in Figure 9, combines textural, structural, and rhetorical features from several different genres. Like many poems, Chris’s poem employs rhyme and parallel syntax, and the intensification of linguistic form through repetition. His

poem also has one of the obligatory structural elements of information reports (descriptions of attributes). Chris’s poem is similar in form to the animal riddles contained in a book that he had borrowed from the classroom library. This book was intentionally written as an alternative format information book for children. Like Chris’s text, the texts in this book represented hybrid genres that combined features from poems, information reports, riddles, and, less commonly, stories.

When asked why his text was a poem rather than some other genre, Chris answered, “Well, it doesn’t teach you anything like an information book. And it’s short. Stories are usually longer. Um, it’s true, and, um, most stories are not true. And it rhymes.” Chris’s response seemed to suggest that, when he wrote this poem, he had developed a rich repertoire of knowledge that was useful in distinguishing different text types. Indeed, he used this knowledge to construct his poem, which included rhyme, a feature typical of many poems, as well as rhetori-

Original Manuscript

I am the fastest mamol uff all i hav
blak spots and i'm not vere tall who an
i.

Child's Reading of Original Manuscript

I am the fastest mammal of all. I have black spots, and I'm not very tall.
Who am I?

Figure 9. Chris' hybrid poem, which was written in the poem task situation but seems to combine poetic elements with elements of riddles.

cal features characteristic of certain types of quasi-poetic texts, namely riddles. However, Chris's response also suggested that he was operating with a somewhat ossified or inflexible genre classification scheme. Although he was aware of many features that vary as a function of genre, he seemed to think of these features in terms of mutually exclusive properties of specific genres. And he seemed to resist the idea that the same features could be distributed differently and function differently across different genres. For example, Chris mentioned that his text was a poem because it did not teach anything. Yet his text provided quite a bit of information about cheetahs. It seems as though Chris thought that because he had written a poetic text, it could not also be informational. Chris seemed unaware that his text and the texts that served as models for his text were information reports cast in riddle form. Finally, Chris did not seem prone to analyze his poem for features that he thought would not or should not be there. In sum, Chris appeared to possess a relatively rich but compartmentalized repertoire of genre knowledge. Interestingly, across all of the tasks within this study, Chris demonstrated more sophisticated knowledge of genre distinctions and conventions than most first graders and even many second graders. This finding suggests that his relatively rigid genre classification scheme might represent a particular developmental moment in the acquisition of genre knowledge for Chris, a time when he had acquired more knowledge of genres than many children at his grade level, but not enough explicit knowledge or enough experience using and talking

about different genres to develop a more prototypical classification scheme.

These interpretive analyses of a subset of the children's stories, science reports, and poems indexed many of the overall patterns that characterized the data set. There was a general tendency for the first- and second-grade children to produce more prototypic and rhetorically powerful stories, science reports, and poems than the kindergarten children. There was also a general tendency for children's science reports and poems to be less prototypic and less rhetorically effective than their stories. Finally, in cases where children's science reports and poems were atypical/rhetorically problematic, these texts had many narrative qualities. Notwithstanding these grade-related and genre-related tendencies, there was significant variation within each grade in children's instantiations of each genre. Some children in each grade produced sophisticated tokens of some (or all) genres. Other children at each grade level produced atypical (and usually low-level) tokens of some (or all) genres. Still other children at each grade level produced hybrid tokens of some (or all) genres. The hybrids were particularly interesting for what they suggested about genre development and learning. Melissa's, Denise's, and Chris' hybrid texts all suggested a process of *bricolage* (Levi-Strauss, 1966, p. 17) in which the children cobble together bits and pieces of knowledge and text to accomplish the tasks at hand as effectively as possible. As M. Chapman (personal communication, February 10, 1998) noted, this process of *bricolage* may represent a key moment in the trajectory from undifferentiated form to the inten-

tional integration of features from multiple genres for particular rhetorical purposes in particular communicative situations. She argued, furthermore, that hybrid genres and the socio-cognitive processes they index provide considerable evidence for the emergent, non-linear, and complex nature of genre development and learning.

Qualitative analyses of children's texts provide important insights into their developing understanding of the conventions of stories, poems, and science reports. Looking more carefully at the distribution of particular linguistic and discursive features across the three genres as a function of grade provides another window into this developmental process. It is to such a set of analyses that I now turn.

Quantitative Analyses of Selected Features of Children's Written Texts

This section reports results from quantitative analyses of the textural features, register features, and structural features described earlier. I begin this section with a summary of all significant findings from quantitative analyses. Then I present results for all dependent variables analyzed.

The overall pattern of significant findings for quantitative data analyses is displayed in Table 1. There were two significant main effects for grade, ten significant main effects for genre, and six significant grade-by-genre interactions. Also important to note is the fact that almost all significant main effects for genre and significant genre-by-grade interactions were for variables

TABLE 1
Overall Pattern of Results from Quantitative Analyses of Text Features

	GRADE	GENRE	GRADE BY GENRE
Clause length			
Past-tense verbs		***	
Temporal connectives		**	
Logical connectives			
Co-referential ties		***	**
Co-classification ties	***	***	**
Specialized narrative discourse		***	*
Biological terminology		***	
Poetic devices		***	
Obligatory narrative structural elements		***	**
Obligatory report structural elements	***	***	*
Obligatory poetic structural elements		***	*

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

representing text cohesion and text structure.

Text Texture (Textural Features)

I analyzed children's texts for six indexes of text texture that typically vary systematically as a function of the three focal genres. These features were *words per clause*, *verb tense*, *temporal connectives*, *logical connectives*, *co-referential ties*, and *co-classification ties*. Table 2 displays the distribution of mean scores for these variables as a function of grade and genre.

Words per clause. A rough measure of syntactic density and text complexity is the number of words per clause within texts (Huot, 1990). No statistically signifi-

cant differences were found in the mean number of words per clause across grade or genre. Most of the children's texts contained about five words per clause, which is the average length of an idea unit within typical conversational discourse (Chafe, 1982). This finding suggests that knowledge of the relations between oral and written discourse was nascent for the children in this study. Such nascent knowledge may be related to the kinds of books children typically read at this age, which usually contain relatively simple syntactic structures.

Despite the absence of statistically significant differences, there was a steady decrease across the grades in the number of words per clause in children's poems.

TABLE 2
Textural Features

<i>Mean Ratios of Words per Clause</i>				<i>Mean Ratios of Tokens of Logical Connectives per Clause</i>			
GRADE	STORY	REPORT	POEM	GRADE	STORY	REPORT	POEM
K	5.36	5.61	5.39	K	0.12	0.13	0.06
1	5.10	5.13	4.78	1	0.06	0.10	0.07
2	5.46	5.44	4.60	2	0.17	0.14	0.07

<i>Mean Ratios of Tokens of Past-Tense Verbs per Clause</i>				<i>Mean Ratios of Tokens of Co-referential Ties per Clause</i>			
GRADE	STORY	REPORT	POEM	GRADE	STORY	REPORT	POEM
K	0.75	0.36	0.45	K	0.95	0.49	0.85
1	0.71	0.09	0.26	1	0.98	0.09	0.54
2	0.89	0.23	0.23	2	1.21	0.36	0.49

<i>Mean Ratios of Tokens of Temporal Connectives per Clause</i>				<i>Mean Ratios of Tokens of Co-classification Ties per Clause</i>			
GRADE	STORY	REPORT	POEM	GRADE	STORY	REPORT	POEM
K	0.49	0.38	0.31	K	0.00	0.23	0.00
1	0.49	0.15	0.25	1	0.01	0.78	0.34
2	0.47	0.23	0.28	2	0.01	0.60	0.36

Qualitative analyses of the children's poems suggested that this pattern was related to the fact that the older children in the study were less likely to write story-like poems. They were also more likely to include poetic features such as parallel syntax, rhyme, and distinct line structure, one by-product of which seemed to be the construction of clauses with fewer words. Additionally, the poems of older children contained fewer particles, determiners, and other words that are incidental to basic semantic content (e.g., *an, the, and*). Friedrich (1986) and others have noted that lexical streamlining adds to the poetic effect of texts.

Verb tense. Mean ratios of tokens of past-tense verbs per clause in children's texts were analyzed. I will not discuss data on children's use of present-tense verbs since those data are essentially the inverse of the past-tense data. The only statistically significant difference found was a main effect for genre, $F(2, 51) = 32.07$, $p < .001$. Scheffé post hoc analyses on this main effect showed that children in all grades tended to incorporate past-tense verbs significantly more in their stories than in either their science reports or their poems.

Two additional findings are worth noting. The science reports of second-grade children contained more tokens of past-tense verbs than might be expected. Qualitative analyses suggested that this finding occurred because many second-grade children wrote reports about their pets or included anecdotes about their pets to amplify or support their general assertions. One partial explanation for this tendency may be the fact that, compared

to other teachers, the second-grade teacher had many more pets in her classroom and spent more time involving children in studying and writing about pets. Another partial explanation may be more purely developmental. Britton (1970), for example, noted a similar occurrence in the children he studied, arguing that it was evidence that they were effectively deploying the *expressive* discourse with which they were competent while also moving toward mastery of *transactional* and *poetic* discourse.

Findings also indicated that, compared to kindergartners and first-grade children, second-grade children used the past tense quite infrequently in their poems. Analyses of children's actual texts revealed that these children tended to write about timeless or universal experiences and themes in their poems (e.g., the beauty of a goldfish, friendship, happiness).

Temporal connectives. Analyses of mean ratios of tokens of temporal connectives per clause yielded a significant main effect for genre only, $F(2, 51) = 6.33$, $p < .01$. Scheffé post hoc analyses on this main effect showed that children used complex temporal connectives more often in their stories than in either their science reports or their poems. This difference was carried largely by the second-grade children, whose stories contained significantly more temporal connectives than did either their reports or poems.

Logical connectives. Analyses of mean ratios of tokens of logical connectives per clause revealed no statistically signifi-

cant main effects or interaction effects. However, the main effect for genre did approach significance ($p < .07$). Although few logical connectives were found in the children's texts overall, their stories and science reports tended to contain slightly higher ratios of these devices than did their poems. Within the science reports, these connectives usually functioned to provide purposes or reasons for the behaviors.

A close examination of the use of logical connectives within children's stories revealed a more complex pattern. Almost all of the logical connectives contained within the stories written by kindergartners referred to generic and non-specific affective states of characters (e.g., *because he liked to; because she wanted to*). The stories of first-grade children included virtually no logical connectives at all. Most of the logical connectives contained within the texts of second-grade children were used to represent characters' specific internal states (e.g., *because he was tired*), particular motivations (e.g., *because his house got ruined*), and specific intentions (e.g., *in order to help their friend*). Typically, these inclusions resulted in stories that were more complex than the stories composed by younger children. Labov (1972) reported that the stories of more expert adolescent speakers and writers tended to include more logical connectives than the stories of novice speakers and writers and that such usage made for better stories. It appears that the same is true for child speakers and writers.

Co-referential ties. Analyses of mean ratios of tokens of co-referential ties per

clause revealed a significant main effect for genre ($F(2, 51) = 52.60, p < .0001$) and a significant grade-by-genre interaction ($F(4, 51) = 3.83, p < .01$). The main effect for grade also approached significance ($p < .06$). Scheffé post hoc analyses showed that children in all grades used co-reference to create cohesion significantly more in their stories than in their information reports. Such usage is consistent with cultural expectations. First- and second-grade children also used co-reference to create cohesion in their stories significantly more frequently than in their poems. This result partially reflected the high ratios of co-referential tokens in the older children's stories—stories that were a good deal more complex and tightly woven than the stories of most kindergarten children. Finally, kindergarten and first-grade children (but not second-grade children) used co-reference to create cohesion significantly more frequently in their poems than in their reports.

A close examination of the pattern of mean ratios for this variable disclosed several other interesting patterns. There was a steady decrease across the grades in the use of co-referentiality as a means of creating textual cohesion in poems. This finding reflected two trends. First, children's poems became increasingly less story-like as a function of grade. Second, the thematic content of children's poems focused increasingly on classes of objects and experiences and universal themes, rather than on particular characters, actions, and events. Additionally, there were reasonably high ratios of co-referential devices in all texts composed by kinder-

gartners. As with other findings, this reflected the fact that many kindergartners produced story-like texts in all conditions. Finally, the science reports of second-grade children contained unexpectedly high ratios of co-referential devices. As was the case with verb tense, this finding related to the fact that a high percentage of second graders wrote reports about their pets.

Co-classification ties. Analyses of mean ratios of tokens of co-classification ties per clause revealed a significant main effect for grade ($F(2, 51) = 8.63, p < .001$), a significant main effect for genre ($F(2, 51) = 42.17, p < .0001$), and a significant grade-by-genre interaction ($F(4, 51) = 4.19, p < .01$). Scheffé post hoc analyses showed children's reports contained significantly more co-classification devices than either their stories or their poems. Additionally, the poems of first- and second-grade children, but not kindergartners, contained significantly more co-classification devices than their stories. Finally, within the science report genre, the texts of first-grade children contained significantly more co-classification tokens than the texts of kindergarten children.

In general, co-classification was almost never used to create cohesion within stories. However, it was used increasingly across the grade levels to create cohesion in science reports and poems. A close look at the findings for this variable revealed some other interesting patterns. Within the science report-writing task, where one would expect to find co-classification devices used, first graders used this cohesive device more than any other

children. For kindergarten children, the relatively low ratios of co-classification tokens in their reports and their poems reflected the fact that many of these texts were story-like. As with past-tense verbs and co-referentiality, the relatively low ratio of co-classification tokens in second graders' information reports seemed an artifact of the fact that many of these children wrote reports about their pets. Finally, the relatively high ratios of co-classification tokens in the poems of first- and second-grade children reflected the fact that their poems focused increasingly on universal themes and classes of objects and experiences.

Text Register

I analyzed children's texts for three indexes of different registers that typically vary systematically as a function of the three focal genres: *specialized narrative discourse*, *biological terminology*, and *poetic devices*. Table 3 displays the distribution of mean scores for these variables as a function of grade and genre.

Specialized narrative discourse. Using a dichotomous scale (0, 1), I coded all texts for the presence or absence of the kinds of openings, settings, and closings that are typically found in narratives. Mean percentages of the specialized narrative discourse were calculated by adding these scores together and dividing the sum by three. Analyses revealed a significant main effect for genre ($F(2, 51) = 20.11, p < .001$) and a significant grade-by-genre interaction ($F(4, 51) = 2.86, p < .05$). Scheffé post hoc analyses showed no statistically significant differences in the percentages of specialized

TABLE 3
Text Register

Mean Percentages of Specialized Narrative Discourse Features per Text

GRADE	STORY	REPORT	POEM
K	25	19	17
1	28	16	6
2	38	5	0

Mean Ratios of Tokens of Biological Terminology per Clause

GRADE	STORY	REPORT	POEM
K	0.02	0.22	0.00
1	0.02	0.49	0.12
2	0.00	0.42	0.09

Mean Ratios of Tokens of Poetic Devices per Clause

GRADE	STORY	REPORT	POEM
K	0.04	0.05	0.51
1	0.12	0.37	0.98
2	0.10	0.06	1.06

narrative discourse within kindergartners' stories, reports, and poems. However, the stories of first- and second-grade children contained significantly higher percentages of the specialized language of narratives than either their science reports or their poems. This pattern of results was more pronounced for the second-grade children than it was for the first-grade children, even though this grade-level difference was not statistically significant.

Descriptive statistical analyses revealed yet more interesting differences. Most of the kindergartners' specialized narrative discourse consisted of formulaic openings and formulaic closings (80% of all tokens of specialized narrative discourse). In contrast, most of the spe-

cialized narrative discourse of first- and second-grade children consisted of explicit settings (67% of all tokens of specialized narrative discourse). Their use of specialized narrative discourse suggests not only that older children have a better sense of the relation between different registers and different discourse contexts, but also that they realize that certain features (e.g., settings) are more fundamental to rhetorically powerful fictional narratives than other features (e.g., formulaic openings and closings). This difference may relate to the fact that stories with formulaic openings and closings (e.g., folktales, fables) are more common in the literacy experiences of younger children. In contrast, stories with well-developed settings are more common in trade books read by older children (e.g., juvenile chapter books).

Biological terminology. Based on Myers's (1990) demonstration that biological terminology plays a central role in foregrounding the universality of scientific concepts and processes and backgrounding particular instantiations of these concepts and processes, this feature was chosen as an index of scientific register. Analyses of mean ratios of tokens of biological terminology per clause revealed a significant main effect for genre, $F(2, 51) = 26.95, p < .0001$. Scheffé post hoc analyses on the main effect for genre demonstrated that children's science reports contained significantly more tokens of biological lexis than either their stories or their poems.

Poetic devices. I coded children's texts for tokens per clause of five different

poetic tropes: rhyme, assonance, alliteration, metaphor, and simile. I then created a summary score of poetic devices by adding these ratios. Analyses of mean ratios of tokens of poetic devices per clause revealed a significant main effect for genre only, $F(2, 51) = 39.72, p < .0001$. Scheffé post hoc analyses on this main effect showed that, irrespective of grade, children's poems contained significantly more tokens of poetic devices than did either their stories or their science reports. A careful examination of the data also showed that, although there was not a significant main effect for grade or a genre-by-grade interaction, this pattern of results was exhibited more dramatically by first- and second-grade children than by kindergartners. Individual analyses of poetic devices revealed some other interesting differences. Although children's poems contained abundant instances of assonance, alliteration, and rhyme, they contained very few instances of metaphor and simile.

Text Structure

I analyzed children's texts for typical text-structural elements of stories, information reports, and poems described previously. All texts, irrespective of the genre that they were supposed to instantiate, were analyzed for the presence of the typical text-structural elements of *all* three genres. Analyses were conducted in this way to determine not only whether particular texts were well-formed tokens of the target genres but also whether there were any systematic patterns of overgeneralization across genres. Such patterns, when found, are extremely useful in constructing plausible accounts of

children's emergent understanding of different genres and the relations among them. Table 4 displays the distribution of mean percentages for these variables as a function of grade and genre.

Narrative text structure. All texts were coded for the presence or absence of the three most typical narrative structural elements: *initiating event*, *sequent event(s)*, and *final event*. Percentages of these elements in each text were calculated. Analyses of mean percentages of these elements yielded a significant main effect for grade ($F(2, 51) = 8.53, p < .001$), a significant

TABLE 4
Text Structure

<i>Mean Percentages of Obligatory Structural Elements of Narratives per Text</i>			
GRADE	STORY	REPORT	POEM
K	83	42	52
1	91	50	21
2	90	14	10

<i>Mean Percentages of Obligatory Structural Elements of Information Reports per Text</i>			
GRADE	STORY	REPORT	POEM
K	0	24	4
1	4	69	32
2	10	71	30

<i>Mean Percentages of Obligatory Structural Elements of Poems per Text</i>			
GRADE	STORY	REPORT	POEM
K	13	0	31
1	6	8	57
2	4	8	63

main effect for genre ($F(2, 51) = 76.45$, $p < .0001$), and a significant grade-by-genre interaction ($F(4, 51) = 3.84$, $p < .01$). Scheffé post hoc analyses showed that the stories of children in all grades contained significantly more narrative structural elements than their science reports. Additionally, the stories of first- and second-grade children, but not kindergartners, contained significantly more narrative structural elements than their poems. As I have reported in relation to other features, kindergartners seemed to overgeneralize story features, especially in their poems.

Information report text structure. Children's texts were coded for the presence or absence of the four structural elements that Pappas et al. (1995) claim are most typical of information reports: topic presentation, description(s) of attributes, characteristic events, final summary. Percentages of these four elements were calculated. Analyses of their mean percentages revealed a significant main effect for grade ($F(2, 51) = 21.27$, $p < .0001$), a significant main effect for genre ($F(2, 51) = 45.16$, $p < .0001$), and a significant grade-by-genre interaction ($F(4, 51) = 3.90$, $p < .05$). Scheffé post hoc analyses showed that the science reports of children at all grade levels contained significantly more structural elements typical of informational texts than those of either their stories or their poems. Additionally, the poems of first- and second-grade children contained significantly more structural elements typical of informational texts than did their stories. When I looked more closely at these poems, it turned out that they often

included topic presentations (usually in the form of a title) and/or rich sets of descriptions. Interestingly, these descriptions were quite different from the descriptions of attributes contained in science reports. In science reports, descriptions were typically lists of facts (e.g., *Cats have soft fur* *Cats have long tails*). In poems, descriptions often conjured up the sort of imagery that Tannen (1989) has argued is a centerpiece of poetic texts (e.g., *My fish has a body like a small piece of gold. And his eyes look like a white bulb shining*). Indeed, the poems that contained such rich sets of descriptions were judged to be among the best poems in the entire corpus. This finding suggests that Britton, Burgess, Martin, McLeod, and Rosen's (1975) distinction between transactional and poetic discourse may be somewhat artificial. Rather, it seems that certain linguistic forms may inhabit different kinds of texts but function in quite different ways.

Finally, within the science report genre, the texts of first- and second-grade children contained significantly more informational structural elements than the texts of kindergarten children. I was curious about the distributions of the three structural elements as a function of grade. More specifically, I wondered whether there was a random mix of these elements in the kindergartners' reports or whether the kindergartners were prone to include one or more specific elements more than any others. A further analysis of the kindergartners' reports revealed that the typical structural element that was most common in their reports was *characteristic events*. A close examination of reports that contained characteristic events was enlightening. These reports

also contained very high ratios of present-tense and present-progressive-tense verbs. These verbs were employed to narrate events within the children's texts (e.g., *The Power Rangers are transforming; now they're fighting with the bad guys.*). Sometimes the children also narrated the habitual events of particular characters in the present tense, modifying their verbs with adverbial intensifiers (e.g., *Toad always does things with Frog.*). These narrations were often read off pictorial texts. In sum, while it makes sense that my coding procedures led me to code clauses in kindergartners' science reports as characteristic events, these texts were not really reports. Rather, they were like *event casts* or *on-line narrations* (Hicks, 1990) or perhaps instances of *following the action* narrations (Sulzby, 1985).

Poetic text structure. All texts were coded for the presence or absence of each of three structural elements considered to be extremely common though not necessarily obligatory in poems: *distinct line structure*, *distinct stanza structure*, and *meter*. Percentages of these elements per text were calculated. Mean percentages yielded a significant main effect for genre ($F(2, 51) = 57.74, p < .0001$) and a modest but significant grade-by-genre interaction ($F(4, 51) = 3.29, p < .05$). Scheffé post hoc analyses showed that the poems of children at all grade levels contained significantly more text-structural elements typical of poetic discourse than their science reports. Additionally, the poems of first- and second-grade children contained significantly more poetic structural elements than did their stories. Within the poem genre, the texts of first-

and second-grade children had significantly more structural elements typical of poetic discourse than did the texts of kindergarten children. Finally, children's stories and science reports contained hardly any poetic structural elements.

These findings parallel the findings from analyses of the textural poetic devices, suggesting that even the kindergarten children in this study had developed some sense of poetry as a unique and intensified form of discourse. They also suggest that this sensitivity to poetic language and discourse continued to develop in the early elementary grades. Additionally, these findings show that these children did not use the text-structural organizational patterns typical of poetic discourse in their narrative or informational texts to any considerable degree. In other words they did not seem to overgeneralize poetic forms to other kinds of texts.

Children's Experiences with Different Genres and Discourse about Genres

Current research in literacy (Baynham, 1988; Cope & Kalantzis, 1993; Gee, 1996), situated learning (Brown, Collins, & Duguid, 1989; Polman & Pea, 1997), and activity theory (Chaiklin & Lave, 1993; Lave & Wenger, 1991; Russell, 1997) has foregrounded the constitutive influence on learning of experience with texts and participation within certain activity genres (Christie, 1995). Although it is impossible to document and gauge the effects of the myriad proximal and distal influences on young (and often emergent) readers and writers in a globalized, fast-capitalist, televisual, cinematic

society, I did document and analyze several key (and relatively proximal both spatially and temporally) influences on children's working knowledge of some genres. These included (a) records of the kinds of texts that children read in and out of school over a four-month period, (b) records of children's assigned and self-selected writing in school for an entire school year, (c) children's self reports about where they learned the forms and functions of different genres, and (d) relative frequencies of teachers' use of metadiscourse relevant to the three focal genres.

Children's reading practices. Table 5 graphically illustrates the mean numbers of stories or storybooks, science reports or science books, and poems or poetry books that the children reported having read (or had read to them) during a four-month period. As the table shows, children at all grade levels read many more stories than either science reports/books or poems. Additionally, the gap between children's experience with narrative versus non-narrative genres increased across the grades.

Assigned and self-selected classroom writing The mean numbers of different kinds of texts written by children either for assignments or in their journals are shown in Table 6. It is important to note that children at all grade levels were asked to write narratives more often than they were asked to write any other genres. This difference was more pronounced for first-grade children than it was for kindergarten and second-grade children. Although still the most com-

TABLE 5
Mean Number of Books Read at Home and School per Child during a Four-Month Period

GRADE	STORY	REPORT	POEM
K	122	41	26
1	187	48	31
2	149	38	29
TOTAL	458	127	86

monly written text types, narratives were not as overwhelmingly present in children's self-selected journal writing. Indeed, children's self-selected writing journals contained higher numbers of drawings, lists, personal letters, all-about texts, descriptions, and poems than they produced to fulfill classroom assignments.

Children's self reports about the sources of their genre knowledge. In the context of a comprehensive, open-ended interview, children were asked questions about where they learned about the three focal genres of this study. The results were telling. The most common responses to the question "Where do you usually learn about stories and storybooks?" were parent/sibling (58% of children in the entire sample) and teacher/school (67%

TABLE 6
Mean Number of Assigned and Self-Selected Texts Written per Child during the School Year

GRADE	STORY	REPORT	POEM
K	52	9	12
1	85	21	15
2	72	18	11
TOTAL	209	48	38

of children in the entire sample). The results were quite similar for the question “Where do you usually learn about poems and poetry books?” Fifty-four percent of children mentioned parent/sibling and 39% mentioned teacher/school. However, the results were quite different for the question “Where do you usually learn about science and science books?” The most common response was The Discovery Channel (37% of children in the entire sample). Only 12% of the children mentioned parent/sibling as a source of this knowledge and only 18% mentioned teacher/school.

Teachers’ use of metadiscourse in relation to different genres. Metadiscourse is analytic language used to talk about language and text. Some examples of metadiscourse include *setting, plot, category comparison, meter, and metaphor*. Based on 10 hours of randomly selected videotaped integrated language arts activities in each classroom, I conducted a descriptive statistical analysis of the number of tokens of metadiscourse relevant to each focal genre used by each teacher per hour. These data are displayed in Table 7 and show that children heard much more

metadiscourse about narrative genres than about any other genres. These distribution patterns roughly parallel those yielded in the analyses of different text types read and written by the children in the study. Also worth noting here is the fact that in many informal conversations teachers told me that they felt much more competent teaching stories than either poems or informational texts.

Discussion

The findings from this study suggest that the children in the sample had considerable working knowledge of the cultural conventions of narrative genres but a more nascent sense of the cultural conventions of informational and poetic genres. Many findings support this claim. There were a large number of main effects for genre as well as a considerable number of grade-by-genre interactions. Based on structural analyses, children’s stories were much more well-formed (88% of all obligatory elements for the entire sample) than their science reports (48% of all obligatory elements for the entire sample) or their poems (51% of all obligatory elements for the entire sample). Younger children seemed to overgeneralize narrative features but not features of other genres. Children produced considerable numbers and kinds of hybrid genres, such as those illustrated in the qualitative analyses. Many more of these hybrids were written in response to the report-writing task and poem-writing task. Children also provided complex and contradictory responses when asked to explain why their texts represented certain genres. Most of these kinds of responses occurred in relation to reports

TABLE 7
Tokens of Metadiscourse Relevant to Each Genre Uttered per Hour by Each Teacher

GRADE	STORY	REPORT	POEM
K	9.7	2.0	2.1
1	15.2	2.9	3.0
2	12.0	1.7	2.8
TOTAL	36.9	6.6	7.9

and poems. Finally, many of the Scheffé post hoc analyses revealed significant differences between kindergartners' reports and poems and those of first- and second-grade children. In sum, although the early years of schooling mark a time when children are actively constructing their knowledge of many different genres, these years seem particularly important for the development of scientific and poetic genres.

I was somewhat surprised to find only three significant main effects for grade. Several partial explanations for this finding come to mind. First, based on comparisons with patterns of feature distribution described by other researchers (Biber, 1988; Langer, 1986; Pappas, 1991), many of the features that did not yield statistically significant grade effects were textural features. Some of these features may have been ones that children master very early in development (e.g., verb tense, temporal connectives, co-referentiality, specialized narrative discourse, biological lexis, rhyme). Other features may be so subtle and complex that they are not typically acquired by children as young as the ones in this study (e.g., syntactic embedding, logical connectives, co-classification, various poetic tropes such as metaphor).

A second possible reason for the small number of grade-level differences might relate to my techniques of analysis. Although conducting repeated measures analyses of variance with two independent variables of three levels each was a proper choice for the kind of data in this study, these analyses are less sensitive to variance than some other kinds of analyses. Had I chosen to conduct sepa-

rate one-way analyses of variance for each genre, I may have found more grade effects. Similarly, had I conducted within-genre pairwise comparisons for grade effects, I may have found even more differences.

Finally, it is worth noting that kindergarten through second-grade children spend a tremendous amount of time and energy on formal dimensions of writing and text production (e.g., letter formation, spelling, capitalization, punctuation, syntax, etc.), perhaps leaving little to devote to functional dimensions (e.g., style, genre, rhetorical purpose). Based on the findings from this study, however, it is clear that children are by no means genre somnambulists during the first few years of school. Like their knowledge of symbolic aspects of written language, their knowledge of genres is complex and multiplex.

The findings from this study support, extend, complement, and sometimes contradict previous findings on children's genre development. For example, this study suggests that children's knowledge of narrative genres may be more well-developed than Hicks (1990) suggests. Related to this point, the first- and second-grade children in this study performed in ways that were quite similar to those of Langer's (1986) third-grade children on both the narrative and information report production tasks. This similarity supports the findings of Newkirk (1989), Pappas (1993), Sowers (1985), and Zecker (1996), which suggest that 6- and 7-year-old children have considerable (but not necessarily comparable) working knowledge of narrative, informational, and poetic genres.

The children in this study also displayed more knowledge of narrative, informational, and poetic discourse than the kindergarten through second-grade children in Kroll's (1990) naturalistic study. One possible explanation for this difference lies in the different data collection techniques used in the two studies. Kroll simply collected whatever texts children wrote either spontaneously or as part of their language arts activities. I specifically asked children to write texts designed to instantiate three different and specific discourse genres. Among other things, the differences between Kroll's findings and my own suggest the complementarity of more naturalistic and more experimental studies in trying to understand children's developing communicative competencies.

My findings also differed somewhat from those of Pappas (1991, 1993). The kindergartners' performances in this study seemed lower than the performances of Pappas' children. This difference may be attributed largely to our different task constraints. Asking children to generate original texts and to write them down, as I did, is considerably more complex and difficult than asking children to recount texts with which they are familiar, as Pappas did. Such differences reinforce Scribner and Cole's (1981) insistence that tasks and task contexts influence how and to what extent children display their knowledge, as well as the fact that different tasks scaffold development and learning in different ways and to different degrees. From this perspective, Pappas's work and my own are complementary. Together, they suggest that although kindergartners may have

considerable tacit knowledge about different genres that they use to complete oral or written reenactment tasks, it may take them some years for such knowledge to become explicit and to be integrated with the cognitive, linguistic, and discursive requirements of composing original extended written discourse. More research is necessary to understand this complex developmental process and the roles that various social and cultural experiences and practices play within it.

The performances of the children in this study on the poetry production task extend Dowker's (1989) work on children's ability to produce poetic discourse in two ways. First, they demonstrate that children as young as 5 years old are adept at writing poetry and not just speaking poetically. Dowker's tasks required the production of poems in the oral mode alone. Second, my findings show that kindergarten, first-, and second-grade children had little trouble responding to bald requests to produce poetic texts. Because Dowker scaffolded children's performances by providing them with poetic texts and asking them to produce similar texts, she was not able to document what they might have done on their own.

The poetic performances of the children in this study partially contradicted the findings of Ford (1987). Most notably, the children in my study demonstrated much more knowledge of poetic devices as defining characteristics of poems than the children in Ford's study. Additionally, whereas Ford's study suggests that third grade is a watershed for poetic competence, my study suggests that children's knowledge develops slowly

and steadily across the grades. I suspect that these differences are partially related to the very different tasks used in the two studies. Ford asked children to talk about their knowledge using traditional interview questions (Mishler, 1986). I asked children to use their knowledge to produce poems of their own. Quite plausibly, my tasks allowed children to draw upon their tacit or working knowledge of poetry in ways that Ford's tasks did not. Additionally, writing original poems may have been more motivating than simply talking about what poems are.

The overall set of findings from children's poetry writing merits some discussion. Although children produced many instances of tropes that involved the dense co-patterning of sound and syntax (e.g., alliteration, assonance, rhyme), they produced almost no tropes that involved the dense co-patterning of meaning (e.g., metaphors, similes). There are several plausible partial explanations for this finding. One obvious explanation is that the children in this study had more experience with the former tropes and less with the latter ones. Although this explanation is possible given the wide range of language experiences children have both in and out of school, the observational data that I collected on patterns of classroom talk about different kinds of texts did not provide strong support for this explanation. Except in the kindergarten classroom, no more attention was paid to alliteration, assonance, and rhyme than to metaphor, imagery, and simile. In fact, the fact that many poems do not rhyme but are rich in imagery was an issue that emerged several times in the second-grade classroom.

Another possible explanation for these findings may be that meaning-based tropes develop somewhat later and more slowly for most children. In this regard, most research on children's developing understanding of metaphor and simile has been conducted with children much older than the ones in this study. As Winner (1988) explains, research that has been conducted with five- through seven-year-olds has produced contradictory findings. This fact suggests that this age period may be a time when the understanding of semantic tropes is only beginning to emerge. Additionally, most studies of young children's developing understanding of semantic tropes have focused on metaphor and simile comprehension and not metaphor and simile production. Abundant evidence exists within the child language literature documenting a comprehension-before-production pattern in the acquisition of many linguistic and discursive concepts and skills.

In partial contrast to these psychological studies, reports from more naturalistic studies of children's informal language play and literary dexterity (e.g., Bauman, 1982; Brady & Eckhardt, 1975; Chukovsky, 1968; Heath, 1989; Rogers, 1979; Sulzby, 1990; Sulzby, Teale, & Kamberelis, 1989; Temple, Nathan, & Burris, 1982) suggest that children may understand and produce a much wider array of poetic tropes, including semantic-based ones. In his study of two-through five-year-old children, for example, Chukovsky (1968) collected the following poetic utterances: "Can't you see? I'm barefoot all over." "Please don't cut down the pine tree. It makes the

wind blow.” “There’s only a small piece of cake, but it’s middle aged.” Similarly, when one of my sons was 5, he saw two unclad headless mannequin torsos in a store window and promptly uttered: “Hey, Dad, there’s a couple of nobodies.” These examples provide evidence that at least some young children traffic in aesthetic modes of linguistic use replete with polysemy, imagery, and metaphor.

Determining the relative plausibility of these various explanations for the findings from analyses of poetic tropes in this study is impossible. Yet they index the need for more research on the development of children’s poetic sensibilities. Central to such research would be the systematic variation of instruction with respect to tropes that operate at different levels of linguistic organization. Also central would be careful documentation of the proximal and distal influences on children’s poetic language production. That such research is important for literacy scholars is elegantly argued by Gardner (1983), who demonstrates that the core operations of language and discourse are particularly salient in the works of poets. Poets explore and exploit the possibilities of language and discourse at multiple levels—phonological, lexical, semantic, syntactic, and pragmatic. Poets inhabit and feel the textures of language and discourse much like the sculptor inhabits and feels her stone or the potter her clay. Not unlike the organic chemist who understands the textures and structures of carbon compounds and can build new molecules, the poet understands the textures and structures of language and discourse and can build new and pow-

erful rhetorical and aesthetic textual objects.

Reinforcing the findings of Chapman (1994, 1995), this study suggests that children’s developing understanding and enactment of different genres are emergent phenomena. By this suggestion I mean that development is complex, non-linear, and constitutively related to differential linguistic complexity and abstraction, task conditions, proximal and distal learning experience, and other contextual variables. As with many other developmental phenomena, children seem both to progress and regress as they learn to differentiate and eventually creatively integrate the forms, functions, and contexts of different genres.

Characterizing genre development and learning as emergent is supported by several pieces of evidence in my data. First, certain kinds of linguistic features tended to produce more effects and/or different kinds of effects than other features. For example, children demonstrated more knowledge of macro-level features such as text structure than knowledge of more micro-level features such as inter-sentential logical connectives. Moreover, this finding was more characteristic of younger children than older children. Second, although most children displayed much more knowledge of fictional narratives, some children displayed more knowledge of scientific (biological) texts (e.g., Teddie’s report) or poems (e.g., Keisha’s poem). Third, although older children tended on average to produce more well-formed instantiations of all three genres, some younger children produced the most

well-formed tokens of these genres. Fourth, although many of the children's texts are fairly conventional (even formulaic), some children produced texts that either did not represent the genres they were designed to represent (e.g., Michael's story) or were distant cousins of the target genres (e.g., Chris' poem). It was common for some children (especially younger ones) to produce stories when asked to write science reports (e.g., Nathan's report) or poems (e.g., Jennifer's poem). Interestingly, however, many of these story-like reports include a moral, and stories with a moral are among the most informational kinds of narratives. Similarly, many story-like poems also embody some poetic features such as imagery, rhythm, or repetition. A fifth piece of evidence for characterizing children's genre development as emergent is the fact that many children produced hybrid genres that seemed to reflect complex processes of *bricolage* (Levi-Strauss, 1966, p. 17) wherein they cobbled together familiar and available discursive resources to solve immediate and concrete discursive problems. Importantly, this process of *bricolage* might be characterized as a bootstrapping activity wherein children pull themselves toward higher and higher levels of situated communicative competence. Denise's science report, which incorporates elements from popular informational genres (e.g., phone books, encyclopedias, public service announcements, infomercials, and advertisements), is a case in point. Sixth, some children produced texts that were both culturally conventional and highly inventive, apparently reflecting children's idiosyncratic interests, experiences, and predilections.

Finally, children's metadiscursive talk showed that they were working hard to organize their knowledge of the complex relations among rhetorical purposes, text features, and genres. Teddie, for instance, wrote an exceptionally well-formed science report, which he justified by noting that it contained "fish words" and "all different kinds of important words." I interpreted these assertions to index the importance of technical vocabulary or a scientific lexicon. Similarly, although Nathan wrote a report about rhinos that was very story-like, his justification of the text as a report seemed to index his struggle to differentiate the genres within his developing genre system. For example, he used the term rhinos alternately to refer to rhinoceroses as a phylogenetic class and to refer to the four particular rhinos that functioned as characters in his text.

Taken together, these various findings suggest that children's category systems for genres may be more nascent and less differentiated than those of most adults. Yet, they also suggest that children develop increasingly complex and flexible knowledge repertoires of generic forms, functions, and the relations between the two. Theoretically, these repertoires may be organized less like classical Aristotelian category systems and more like prototype systems (Pappas et al., 1995; Rosch, 1975; Swales, 1990) or cognitively flexible systems (Spiro, Vispoel, Schmitz, Samarapungavan, & Boerger, 1987), with category membership based on family resemblances rather than mutually exclusive and exhaustive feature sets. As children construct their genre theories, they appear to integrate many

different kinds of genre knowledge (e.g., textural, structural, functional, and contextual) in only partially predictable ways. They seem to exhibit considerable uniqueness in the particular ways that they organize and reorganize many different kinds of degrees of knowledge, which suggests that learning about different genres is an extraordinarily complex affair that probably unfolds over many years, may proceed in many different ways, and probably reflects the crisscrossing and lamination of any number of biological, social, and cultural vectors of force (Vygotsky, 1987; Wertsch, 1985). Because research has just begun to produce the logics and trajectories of this process, much more research on genres and genre learning is necessary.

Limitations

Like all studies, this one suffers from several limitations. First, because I chose to study intact classrooms instead of a random sample of children, whether my findings might generalize to a larger population is questionable. Although I could not eliminate this threat to external validity, as a partial guard against it, I compared the socio-economic status of my sample with that of the school population. As I reported in the Method section, the sample was almost identical to the school population with respect to this social index.

Another possible limitation of this study has to do with the nature of my tasks. Task instructions consisted of school-like prompts, and each text was produced during a single experimental session. Although standardizing tasks is required to allow for comparisons along

the same dimensions for all children, they may result in performances that either underestimate or overestimate children's knowledge. On the one hand, some children may have demonstrated more genre knowledge on my tasks than they would have under more naturalistic conditions. On the other hand, some children may have demonstrated more genre knowledge under different conditions, such as those of a process writing workshop. To understand such differences would require analyses of the findings of many different studies using different methods.

My coding and analysis procedures may have resulted in another potential limitation. Although most children composed their texts using phonetic-based writing forms, some kindergartners used non-phonetic forms of writing. In these cases I analyzed children's readings (or reenactments) of their texts rather than the texts themselves. Using such readings could have led me either to underestimate or overestimate children's genre knowledge. Because the act of writing phonetic-based text is both physically and cognitively challenging for young children, those who could not or chose not to write phonetic-based text may have had a slight performance advantage. For example, they may have expended less physical and cognitive energy during the writing phase of the sessions, leaving more energy for the reading. Additionally, they may not have been as constrained as other children by the length, content, and structure of their written texts. Indeed, one child exclaimed, "I write with pictures 'cause then I can make up any story I want." Conversely, children who composed with drawings

may have been constrained by those drawings during the reading phase of my tasks. As Sulzby et al. (1989) demonstrate, drawings can cue forms of reading that they call *labeling and commenting* and *following the action*. In the first case, children simply name the elements of their compositions. In the second case, they name the elements and add simple action statements about them. It is worth adding a caveat here. From an emergent literacy perspective, this limitation (in both of its forms) is an inherent problem in any study that focuses on children's texts because the definition of text must necessarily be broad and include various graphic forms and children's readings from those forms.

A problem in all developmental studies with young children is establishing a high degree of confidence that participants understood the task requirements in roughly equivalent ways. Resolving this problem is very difficult, and resolutions are always partial and tentative, especially when relatively open-ended tasks are involved. Although it would be foolish to presume that all children understood the instructions in the same way or with the same degree of sophistication, my research design did include measures to constrain this problem. For example, stories, informational texts, and poems had all been included in the unit on animals and animal habitats that children had studied for 6 weeks before data collection. Teachers in all grades also talked about the differences between these three genres and engaged children in discussions and tasks related to these differences. Finally, the fact that most

children produced texts that exhibited some predictable genre differences suggests that they understood what they were supposed to do.

My choice of a cross-sectional quasi-experimental research design with limited contextualization brought with it a final limitation. This design was particularly effective for mapping within-subject differences as a function of genre and between-subjects differences for grade. It was much less effective in mapping both proximal and distal influences on children's genre development and learning. For example, although all teachers were involved both in creating the *Animals*, *Animal Habitats*, and *Animal Life Cycles* unit, each implemented the unit in slightly different ways, which I did not document systematically enough to determine with much confidence whether any of these differences affected my findings in significant and accountable ways. However, even if I had done this, I never could have mapped all the influences that contributed to children's texts because these influences flow from so many different places (e.g., family, friends, videos, television, after-school activities, and so on). In sum, although some of my findings, especially the interpretive ones, suggested that genre development and learning is partially idiosyncratic and linked to particular contexts and socialization histories, my design did not allow me to explore these socio-cultural-historical dimensions in much detail. Highly contextualized multiple-case studies and longitudinal studies would be more effective tools for exploring these aspects of genre development and learning.

Implications for Pedagogy

Perhaps the most important implication for pedagogy suggested by the findings from this study is that children's literary diets are not particularly well-balanced and may not be providing children with cultural staples requisite for optimal genre development and learning. Recall, for instance, that the children in this study seemed to possess more knowledge of narratives than other genres and that younger children often defaulted to narrative genres when composing science reports and poems. Recall also that the teachers in the study used more technical metadiscourse when discussing narrative genres than informational genres or poetic genres, a finding that parallels those of Hanauer (1997). Finally, recall that the number of storybooks read by these children outnumbered both information books and poetry books more than five to one. In a similar analysis, Cox (1986) found that basal readers typically contained twenty times as many narratives as informational texts. Several other recent research reports and surveys of research have concluded that children's difficulty comprehending and producing non-narrative text may well be rooted in differential experience with different genres (Chall & Jacobs, 1983; Christie, 1989; Daniels, 1990; Newkirk, 1989; Pappas, 1991, 1993). Additionally, Gallager and Pearson (1982) note that many expository pieces in basal readers are replete with textural and structural elements more commonly associated with narratives. Similarly, informational media texts (e.g., National Geographic and Discovery Channel programs) also embed scientific information within narratives of

science or scientific discovery (Myers, 1990), and many children's information books laminate scientific information and elements of informational prose within outer layers of narrative. This general problem has been exacerbated by popular and academic claims about children's preferences for and delight in narratives (e.g., Egan, 1988), the motivational power of narratives (e.g., Adams, 1990), and the "boring" quality of expository texts (e.g., Venesky, 1982). It is important to note, however, that most of these claims lack adequate warrants from research.

These findings and claims are troubling because the types of writing required for achievement in school and beyond assume an awareness of a wide variety of specific genres and their functions as well as an awareness of the contexts in which certain genres have the most purchase. Knowledge of genres is central to becoming a competent writer across multiple communicative contexts because genres "correspond to typical situations of speech communication, typical themes, and, consequently, also to particular contexts between the meanings of words and the actual concrete reality under certain typical circumstances" (Bakhtin, 1986, p. 87). From this perspective, the ability to write an outstanding natural history report on the rain forests of Brazil does not insure that the same writer could write an even adequate closing statement in a court of law or a sonnet for an English class. Such a situation is probably not attributable to the increased difficulty of the latter task in comparison with the former. More probably, it is attributable to the fact that the writer has had more exposure to and

more experience with writing, talking about, and critiquing natural history genres than legal or poetic genres. If this is true, then children who encounter different kinds of written genres are likely to have a much greater general awareness of these genres, their shapes, their meaning potentials, and their functions than children who do not. In this regard, numerous theorists (e.g., Bakhtin & Medvedev, 1985; Fowler, 1982; Rosmarin, 1985) propose that the lenses of genre and the realities accessible to genres are organically related. It is thus important for young children to experience, explore, and interrogate many high-quality examples of many different kinds of texts

during the early years of elementary school. It is also important for teachers to know the structures, functions, positive potentials, and possible hegemonic effects of different genres and social practices so that they can more effectively help children learn, analyze, interrogate, and creatively exploit these resources. The more different kinds of genres that children learn to deploy, analyze, and synthesize, the deeper and broader their potential for cognitive, communicative, critical, and creative growth is likely to be. Exploring the limits of these potentials must be a central theme for future research on genres and genre learning.

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The Conference on English Education is now accepting nominations for the James N. Britton Award for Inquiry within the English Language Arts. Exemplary studies published in any format, including distributed final research reports, are eligible. The studies must be conducted by an English/language arts educator at any level--preschool through university--and may reflect on any aspect of the inquirer's own teaching. Collaborative research conducted with other practitioners will also be considered. All modes of inquiry are equally valued.

Nominations, accompanied by **three copies** of the published material, may be made by any language arts educator or by self-nomination **not later than July 1, 1999**, for studies published between January 1, 1997, and December 31, 1998. Send nominations and materials to: CEE Britton Award, NCTE, 1111 W. Kenyon Road, Urbana, IL 61801. Winners will be notified in December 1999 and announced at the 2000 Spring Conference in New York, NY.