This longitudinal study examined the development of the semantic "strand" (the relationship between drawing and writing, differentiation of literary genres, influence of literature, coherence, and part-whole coordination) of children's writing development over a 5-year period. Subjects, eight girls and nine boys enrolled in a small, urban, nonsectarian, private school, were observed and interviewed during their normal writing periods from kindergarten through the third or fourth grade. Although the subjects' six different teachers used different writing programs (which ranged from the whole language approach to a much more directive approach), all teachers encouraged invented spelling in the first 3 years and provided frequent opportunities for writing. Results indicated that (1) children struggle with the same aspects of making meaning in the writing process in many different ways; and (2) each child's developmental pace is individual. Findings suggest that individual differences can be understood within the whole continuum of writing development, allowing for more effective instruction for individual children. (One table of data and 12 figures presenting students' writing are included; 22 references are attached.) (RS)
Making Meaning in Writing: A Longitudinal Study of Young Children's Writing Development

by

Linda Kroll
Department of Education
Mills College

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Learning to write is a developmental process resulting from the interaction between the child’s knowledge and the literary environment to which the child is exposed. This interaction begins long before children enter school, with their first exposure to books, signs, ads, labels and the trappings of an urban literary environment (Ferreiro, 1978; Harste, Woodward & Burke, 1984; Heath, 1983). As children are exposed to a greater variety of literary forms, they construct their own ideas about the nature of literacy in general and the nature of writing in particular. Researchers have observed, collected, and analyzed young children's early writing attempts in an effort to document and understand the process of learning to write. The developmental aspects of this process are represented in the research of, among others, Ferreiro (Ferreiro, 1978, 1984, 1986; Ferreiro and Teberosky, 1982), Sulzby (Sulzby, 1987; Teale and Sulzby, 1987; Sulzby, Barnhart, and Hieshima, 1989), and Dyson (1985, 1988, 1989). A common thread that runs through research in young children's writing is a focus on the appearance of the written product and how children interpret the symbolic aspects of written language. Thus, Ferreiro's work has focused on children's construction of the alphabetic principle, while Sulzby's most recent work has looked at the kind of physical representation children use to write and how they reread what they have written (interpretation of written symbols). This work has been of great importance, particularly the work of Ferreiro, which presents a replicable critical exploration of children's acquisition of certain aspects of literacy, reflecting a strong cognitive developmental influence in both method and results.

Also of importance is Dyson's work (1985, 1988, 1989) which has focused on the social contexts in which the development of literacy occurs. Her work in examining children's composing processes in writing, drawing
and conversation contributes to our understanding of the interrelationship between aspects of written language that children confront in learning to write, and the interaction between their personal, literary and social worlds. Harste, Woodward and Burke (1984) focus on children's developing understanding of the functional aspects of writing, and how such knowledge can be applied to the teaching of writing. The work of Calkins and Graves (Calkins 1986; and Graves, 1983) has focused on descriptive data for informing good early literacy instruction. What is needed to further our understanding is research which moves beyond examining the physical, symbolic representation systems that children construct, to examine how they make use of these systems to express meaning, how the meaning they intend is related to the social context and function of written language, and how this constructive process of literacy development is related to more general cognitive development.

In the writing research I have been conducting I have identified four strands of development in writing: physical, symbolic, semantic and social (Black & Kroll, 1989; Black, Ammon and Kroll, 1987). The physical strand refers to how the child physically represents text on the page and includes consideration of such issues as letter orientation, organization of space, small motor coordination, use of capitals and lower case letters, etc. The symbolic strand refers to how the child uses the symbolic aspects of written language, particularly the development of the idea that writing represents the sound rather than the meaning of language. Issues involving the use of invented spelling and invented punctuation are included in this strand. The semantic strand refers to how children understand and construct the meaning of text in writing. Included in this strand is the child's understanding of the relationship between what is written down and what the writer means, the
kinds of physical and symbolic structures the child constructs to make his/her meaning clear, how the writer makes use of literary models and genres, and the different functions of writing and written text that the young writer invents. The social strand refers to how the young writer constructs the communicative aspects of written language; i.e. how the young writer develops a notion of an audience, and the context in which writing itself occurs.

In this paper I examine the development of the semantic strand and, briefly, the differentiation and integration of the semantic strand with the other strands within the domain. Understanding the semantic strand and the links between this strand and other strands can begin to answer questions about how young writers integrate their knowledge of the written symbolic system with making meaning in written language.

Methods

Subjects

For the past five years I have been conducting a longitudinal study of the development of children's writing. I began my study with an entering kindergarten class of 17 children, 8 girls and 9 boys, in a small, urban non-sectarian private school. The school population is largely white, middle-class, although about 25% is non-white. When the children began school, they were between the ages of 4 1/2 and 5 1/2. They are now in their fifth year of school and are in the third or fourth grade. Except for one, they have all remained at the same school, although they are in three different classrooms.
During the first four years I spent an hour a week in their classrooms, during a writing period, observing, assisting and interviewing them about their writing. In the fourth year I also did some teaching of writing in one classroom. The writing for the first three years was primarily in journals. In one class in the third year children began also to keep writing folders. In the fourth and fifth years both journals and folders were used for writing. I have collected all the journal writing for the first three years, and most of the writing for the last two years. In one classroom, the teacher does not save the children's writing, and it is not organized into folders and journals as it is in the other classrooms. It has been more difficult to keep track of all their writing; thus, there are fewer samples for the children in that classroom.

Over the past five years the children have had a total of six different teachers, although not all children have had all teachers. Each teacher has an individual writing program, which run the spectrum from a whole language approach to the teaching of writing to a much more directive approach, with assigned topics and genres. However, all of the teachers encourage invented spelling in the first three years, provide frequent opportunities for writing (two to three times a week), and often allow topic choice. In most of the classrooms, the sharing of writing is a regular occurrence, although the use of writing conferences is limited, as is discussion of writing processes, styles and problems. The teachers at the school see themselves as learning to be good writing teachers. They are committed to trying to implement writer's workshops in their classrooms on a regular basis, but are still at different levels of implementing this approach. They have been largely uninvolved in the data collection process, although very cooperative and supportive.

Results and Discussion
Preliminary results indicate that there are identifiable levels of development within each of the four strands described: physical, symbolic, semantic and social. Categories or classification of general characteristics and level within each strand are being developed, but are not reviewed in this paper. Here I will focus on development within the semantic strand, keeping in mind evidence of concurrent development within the other three strands, both from my own work and from the work of other researchers (Physical and symbolic: Ferreiro, 1978, 1984, 1986; Ferreiro and Teberosky, 1982; Sulzby, 1987; Teale and Sulzby, 1987; Sulzby, Barnhart and Hieshima, 1989. Social: Dyson, 1985, 1988, 1989; Harste, Woodward and Burke; 1984). I will review in detail the development of four children, Caitlin, Michael, Stephen and Sarah, to show how they have confronted certain fundamental semantic issues as they construct and reconstruct making meaning in writing.

**Issues within the Semantic Strand**

The major issues I have observed that undergo a developmental construction and reconstruction process within the semantic strand are:

1. the relationship between drawing and writing;
2. differentiation of literary genres such as narrative, exposition and poetry;
3. coherence within the text;
4. the influence of heard and read literature on structure, style and content;
5. the manifestation of part/whole coordination within the writing domain.

I will examine development year by year for each of the semantic issues for the four subjects.

**The Relationship Between Drawing and Writing**

Particularly in the early years (kindergarten through second grade), children's writing is frequently accompanied or preceded by drawing or
illustration. Drawing has long been recognized as a rehearsal process for writing (e.g. Graves, 1983); and a typical kindergarten or first grade writing assignment has been "draw a picture and then write about it." In examining how children make meaning in writing, it is clear that drawing must be included in the investigation, at least in looking at early writing attempts.

**Year 1.** During the first half of the first year the children spent a lot of time drawing and dictating, learning to read organic reading vocabulary (Ashton-Warner, 1963), and listening to many stories. In January of that year the teacher and I introduced journals. The journals were homemade books consisting of stapled pages which each had lines for writing and, beneath that, a space for drawing. The children were told that these were special writing books, that they would be allowed to draw and write in the books, but that their teacher would not write for them. They were to try to write as best they could themselves.

In this first year, the notion of drawing as rehearsal was reaffirmed, but in an interesting way. Only three of the children drew regularly; Stephen drew one picture during the entire six month period. For those three children that did draw, the drawing was usually related to the actual text. Drawing always preceded the writing, as did conversation with other children, and this period of drawing and talking seemed to serve as a rehearsal period for writing. Stephen, who did not draw, spent the rehearsal time chatting with his friends, walking around the room talking to himself, or reading the entries of other children.

The actual text of the writing was quite brief, never more than one sentence. For the most part, the writing served as a label for the drawing. Even where the drawing seemed unrelated to the text, the writing had some tangential relationship to it. Caitlin's drawing of hearts was accompanied by
"ILOVEYOU" Michael's text described the action apparent in the picture. Often, more than the one action mentioned was shown or verbally described as having happened in the picture, but the writing represented one moment in the drawing. Michael's elaborate picture of a G.I. Joe battle is accompanied by "G.I. JO IS FITeN COBRA" (See Figure 1). Sarah's drawing, on the other hand, contained less continuous action, and were accompanied by more explicit text, as in "The*ELFT FOUD a STR*EGG aD The STR BNE ES WTCING" (The elephant found a easter egg and the easter bunny is watching.) (See Figure 2). All elements of the drawing are represented in the text, but there is no sequence or action, it is simply a moment in time.

During the first year drawing was a rehearsal for writing, if writing occurred at all. There were periods during these six months for the three children in which drawing was all they did. For Stephen, there were days which were all rehearsal and no writing, in which he complained bitterly of not knowing what to write. The writing that appears in this first year is primarily a label for the drawing, or, in Stephen's case, a label for a whole set of ideas or activities. The children made meaning in writing primarily through their drawing or their conversations.

Year 2. During the second year writing continued to be a label for drawings for all the children. Stephen began to draw, and for about two months, his drawings preceded his writing, which was essentially a caption for the drawings. "I am onasaocr tem steng ras senr forro." (I am on a soccer team. Sting Rays. Center forward.) (See Figure 3).

By the middle of the year a new development appeared: either the drawing disappeared from some pieces, or drawings illustrated the text. Drawing now followed the writing of a piece some of the time. The children did not abandon drawing completely; nor would they for at least another year.
But more and more frequently, drawing ceased to be the rehearsal process it had been. Instead the drawings were used to elaborate on the text. The text continued to be short; a sentence or two most of the time, while the pictures, which were done after the writing, represented more than was in the text, as in Sarah's story of the tree falling. (See Figure 4). The meaning the children created still rested primarily in the drawing, in spite of the fact that it followed the writing. However, children wrote many longer pieces; some over several days, sometimes illustrating each day's output. In these cases, the drawing and writing shared the burden of communicating and creating meaning.

Year 3-5. By the third year, the amount of drawing had decreased. Stephen had no illustrations in his journal. In his writing folder he had an occasional drawing that was usually the result of a teacher assignment that included drawing as well as writing. Michael and Caitlin continued to use drawing as a rehearsal some of the time, but by the middle of the year had either abandoned it all together or used it to illustrate their texts. Sarah's early pieces in this year contained a great deal of illustration that added to her stories by their charm, but not by adding information. (See Figure 5). By the end of the year her spontaneous illustrations were gone.

In the fourth and fifth year drawings appeared only sporadically, either as part of a teacher assignment or as a doodle on the side of the page. The one exception to this was the illustration of published books that occurred regularly in some of the classrooms each year. The illustrations for those published books were extremely colorful and elaborate, but they were produced only after the final draft of the writing had been typed and bound.

After the third year drawing ceased to contribute to the making of meaning in writing in the significant way that it had in the first two years. As we shall see, children found other methods to enhance and communicate
their meaning. From being the focus of the meaning making process, drawing became a secondary factor in the children's struggle to coordinate what they meant with what they wrote.

The Development and Differentiation of Literary Genres

The development and differentiation of literary genres is at the core of the semantic strand of development in writing. By constructing and reconstructing their own ideas of the different possible structures written language can take, children come to understand the wide variety of ways that one can make meaning. Britton's view of this process (1970) gives a general overview: writing begins as an expressive form of communication and gradually differentiates itself into two categories, poetic and transactional. Poetic writing is fiction, narrative prose and poetry; written language that integrates poetic style with meaning, focusing more on the personal aspects of writing. Transactional writing is informational writing, focusing more on the communication purpose of writing. This view is a useful beginning for examining this strand, but in looking at children's writing we need more than general categories. Thus, in examining the development and differentiation of genres I look at genre category, topic, structure, genre markers, and voice.

Year 1. Even in the first year, the roots of different writing genres were apparent. The writing was a personal statement of opinion or fact, a description of the picture, or an elaboration on the action in the pictures; e.g. Caitlin's piece "THSZNTNATTH:ILZ" (This is night time at the hills), which is accompanied by a drawing of hills and a triangular moon. (See Figure 6). Other pieces involved either wishes or expressions of feelings; I wish..., I like..., I hate etc. These pieces are good examples of early expressive writing which contain the seeds of both narrative and expository text.
Frequently, children wrote on one topic several times. When this occurred, it was easier to identify genre precursors. Thus, Michael wrote a number of pieces (all no longer than one sentence) first on "the rabbit" and later on "G.I. Joe" (see Figure 1). The G.I. Joe pieces are story precursors; each one represents a battle between G.I. Joe and his arch enemy Cobra, with G.I. Joe triumphing in the end. Although these pieces lack most narrative characteristics (no plot, no character development, no setting etc.) they do have the rudiments of narrative structure. There is a hero, G.I.Joe, triumphing repeatedly over the enemy, Cobra. The rabbit pieces, on the other hand, show a mixture of narrative and expository style. The reader could interpret the series of pieces (which occurred over a period of four months) as an ongoing story about a rabbit and all his activities or as a series on "what I know about rabbits." In fact, the series seems to be something of both. Some entries have a more narrative flavor (e.g. "HE*STOPPT*4 LNCH"). The text is about an action, it is written in the past tense, it is about a moment in time. Others seem more expository (e.g. "THE RABET iS PREDE"). Part of the series described the rabbit, which could be considered as character description, since Michael used the definite article to identify the rabbit. However, the collection of entries that are more descriptive in nature seem like a general description of a rabbit, rather than the description of a story character. (See Figure 7).

**Year 2.** At the beginning of the second year, personal narrative was the most common form of writing. Stephen's soccer team piece (Figure 3) was typical. The entries were short and summarized personal information. During the year the personal narrative pieces became longer and more elaborated. Many had the characteristics of diary entries, and eventually developed into full-fledged narratives. Stephen's garter snake piece and
Michael's pieces on his trip to Alaska and to Los Angeles demonstrate this development. (See Figures 8, 9, and 10). These later pieces have many characteristics of narrative structure: sequence, a beginning, middle and end, voice, and past tense. They also have the characteristic of beginning well but either lacking all development (as in the garter snake story) (see Figure 8), or trailing off at the end, (as in Michael's Los Angeles story) (see Figure 10). Graves and Calkins call these the bed to bed stories, because often the stories only end when the characters go to bed. As soon as these children started to write longer pieces the bed to bed structure appeared.

Not all the narratives were derived solely from personal experiences. The children began to attempt to write fiction, imitating stories and structures they had heard in literature. (More about this later). Sarah’s Mouse House story is a fantasy that takes off from a possible personal experience.

Own day I was eating lunch wen I herd sum litll noysis they were coming from the cuerd. sloly and coshly I opind it.

There wer little mies in the coder. They wer steeling all the food. Soe I pot then into my red moueshouses.

They wer very bisy little creechers. One of them was even playing ball.

One day I tock them out for a wolk. It was suny. So we tock a loung wolk and wen we came home we wer all tiered and we all went to bed after diner

One day I wocke up and my mise wer gon. There wer rlae mise in the mousehouse.

In this piece we see the true beginning of a narrative. The story begins with a typical genre marker: one day. It consists of a sequence of events with a beginning, middle and end that show some rudimentary development.
Sarah began mysteriously, established the mice and herself as characters in the story and then ended it by having them disappear just as mysteriously. She used a sequence of events within the sequence where she described the long walk. In this section she had difficulty ending it, so she ended by putting everyone to bed. Her story is written in the past tense, another genre marker.

Towards the end of the second year the children began writing never-ending stories. From the end of March until the end of the school year Stephen periodically added to a story about a boy who meets a dinosaur, and the adventures they have together. This development seems an offshoot of the bed to bed sequence, but differs because the adventures go on and on never ending. These stories were more common in the third year where I will discuss them further.

Not all personal experience pieces developed into narratives. Protoexpository pieces appeared in several guises. Michael and Stephen, as well as many of the other boys, drew and described numerous mazes, explaining the goals and the point systems in some detail. As their teacher responded to their writing in their journals, the children began to carry on written conversations with her about what they were writing. Sarah, and a number of the other girls, wrote interview pieces about each other. These pieces are clearly derived from personal pieces in that they describe the person's likes and dislikes, but they are written in the third person about someone else. (See Figure 11). Michael wrote a piece about the solar system, which he also illustrated. This variety of expository writing styles shows that the children were beginning to understand and construct different structures for communicating different kinds of meaning in their writing.

Year 3. In the third year the children's writing consisted mostly of personal narrative and experimenting with narrative fiction. The children
had differentiated narrative from other genres, although there are still samples that show some mixing of genres. Stories consistently began and ended with traditional story markers such as *once upon a time, one day, once there was* and *happily ever after, the end*, and so forth. Michael, Stephen and Sarah all wrote ongoing stories that lasted over several entries. The structure of these stories is quite predictable. The story begins with the introduction of a main character and with the introduction of that character's problem. This beginning is followed by a number of incidents that, while coherent within themselves, are connected only minimally. I call these *James Bond* stories, since the structure reminds me of the typical *James Bond* thriller where one exciting event follows another, with almost no connection between each event. The ends of these stories, if in fact they are completed, are contracted to a few sentences where the final problem is resolved without any elaboration and the people all end up happily; e.g. "And so he foiled the map and he killed the dragon and rescued the princess and got back home, and lived happily ever after." (Sarah, *King Clumsy IV*). (See Figure 5). The children experimented with different kinds of narratives: fairy tales, sports stories, scary stories, fictional stories of themselves and their friends. In spite of the variety of narrative genre, the stories maintained the same *James Bond* or *bed to bed* structure.

Although narrative was the dominant genre form used during this year, children did experiment with different expository forms as well. Stephen wrote commercials and recipes which he interspersed into his ongoing story. Sarah wrote more friend interview stories, similar to the ones she had written the year before. Caitlin was working to make sense of new ideas with a piece "I wish I was historian and my mum was historian." (See Figure 12). The children also used their journals as diaries, recording
reflections about their experiences and their feelings. Sarah marked some entries "privit, do not reed!!!" She also experimented with poetry, writing several poems during the year.

The third year is dominated by a construction and reconstruction of several different genres. Narratives, while dominated by two basic structures (James Bond and bed to bed), were constructed with a variety of content. In expository writing, the children investigated a variety of forms. In personal writing, the children began to use writing as a means for clarifying their own feelings about themselves and their experiences. Writing is beginning to take on the epistemic function described by Bereiter (1979) in which the writer writes to learn. In this case, the children are writing to learn more about their own feelings and ideas. Making meaning with writing is starting to become a reciprocal process; the writer makes meaning for both himself and for the audience.

Year 4. In the fourth year we begin to see well-formed narratives. Some of the children used a more anticipatory story structure, setting up events for the reader and then following up on those events. While sequential, linear constructs continued to be used within these stories, the overall impression is of a well-formed story. Stephen and Sarah wrote Fish Stories in chapters with character descriptions, settings, problems, resolutions and conclusions. Here is one excerpt which illustrates this advance in story planning and structure:

Chapter 1
How it began

"Hi my name is Skippy. I'm a skipjack tuna. And I have a story to tell you." One day I was swimming along. I was going to the super sewead store and I was carrying my purse. When a shark came up to
me and took my purse and swam off!!! I shoted at him but he didn’t her me. I had 100 clam shells in my purse. 1 clam shell is werth 1 doller so I was pritty mad. To top that off my purse had some very pretty perals on it from the most valubal oysters in the sea. I was angry as a wave crashing on the rocks......

The story goes on for two chapters in which Skippy calls the police (swordfish who sharpen their swords on the coral) and describes the thief. They go off to catch him. It ends:

...Finly we saw him he was bieing a tikit to the nexst train out of toun. Gest as he was about to by his tikit Sam [the police chief] snuk up behind him and grabbed him he clampd handcufs on him and took him to jail. jail is a big room made out of coral. Well thats the end of my story. I have to go by."

THE END

Sarah began the story by speaking directly to the audience. She set the stage, provided the audience with necessary world knowledge (about the value of the stolen objects), and used imagery to express her feelings. All of these are new literary devices, commonly used by adult fiction writers and poets, with which she experimented in order to understand how to use them to make her meaning clear. The ending is not the compacted ending of the year before. She was able to describe the action and the setting at the end of the story, as well as end where she began, with a message to the audience.

Stephen’s fish story was not nearly so well planned and executed; it still contains James Bond elements. However, the beginning of the story was well developed, setting the scene and the characters:

One day there was a school of fish. The techer of the school was named Mr. Hammerfish. The biggist fish is named Fred. He can swim the fastest. The secont biggest was named Jon. Jon went the secont fastest. The third was named Tom. Tom
went the third fastesest. The fourth bigist was named Han. He could swim the fourth fastest. now the smallest could not swim fast at all (he could not even swim an inch in a minit) His name was Ty.

Of course, Ty is the hero of the story. He gets lost from the school and has a James Bond series of adventures. He does not end up back with the school; in fact, the story ends in an unsatisfying way structurally. But Stephen tried a new tactic, ending with a joke. Ty gets into a battle with a sea serpent, and Ty is winning:

...Ty said "down for the cont 1 2 3 that sure was a knock out.
   The serpent said "that was not a knock out. I could bely even feel it.
   "Than why diden't I hear yoarer hart betting?"
   said Ty.
   "Because you just got an ear efekshin!" yeald the serpent.

The punch line of the joke sufficed to end the story for Stephen.

Michael and Caitlin also showed progress in writing more well-formed narratives that included some anticipation, while maintaining the vestiges of the James Bond style. All four children used chapter headings to indicate the different parts of their stories. Most of the stories had real problems that were maintained to a final resolution, if the child finished the story. Finishing a story was an issue, and many stories were begun, set-up well, but remained unresolved. The lack of an ending indicates that at this point in their development as story writers ending a story is the most difficult part of story structure to construct, although when stories do end, the ending is more elaborated, as we saw with Sarah's Fish Story.
The children experimented with more types of narrative, mixing personal experience with narrative structure. Michael wrote a baseball story which was on-going, written in the present tense, as if it was the commentary accompanying an actual game. He included interruptions of songs to indicate similar interruptions that occur in real baseball games, and told the reader: "Now, back to the game". He also combined book structure with personal narrative when he wrote the book of "My Most Painful Experiences." It is during this year that the children began to write several drafts of stories. They began to recognize the process of making one's meaning clearer through the act of revision.

As well as experimenting with narrative form and structure, the children began to clarify and construct a stronger notion of expository text. They experimented with journalism, lists, reporting school events, writing assigned topic reports etc., and also with philosophical essays. In his essay on the importance of education Michael combined narrative and expository styles to make his point:

Education means alot to me! It gives me a chance to have fun with math, reading, ext. I can right storys with my friends. If I was not educated I could not do things like read and I would not know about anybody else. I love to be educated. Me and my friends can have lots and lots of fun. Story.

I am in school. It is nine a.m. school has just started. It is my first day at school. I was not educated yet. I was scared. Quiet my teacher said. I was starteld. My skin almost flew of my body, but I held it on. After a long time she said "reses" I din't know what in the world she was saying. Everybody else put there stuf ayway and walked outside. I stayed behine m 'best friend, Joey. Half a year later when Mrs. Rufrk said "reses" I was the first one outside. Then I asked Joey "What does reses mean?" Joey said "time to go to lunch." Two years
later I new math. I was almost educated! I was happy. But now I am educated! I am happy. The end.

Education is wonderful espeshaly when you ned it like in school are jest math class.

Proof that I am educated, I rote this.

In this piece Michael used everything he knew about writing to make his meaning clear. He mixed and combined narrative and expository elements inappropriately, but he demonstrated a strong personal voice and sense of what an expository essay is supposed to do: convince the reader of a point of view.

The fourth year was a coming together of many of the different constructions in genre with which the children experimented. Narratives began to be well-formed, using planning and anticipation to enhance the meaning of the text. Expository prose was still in the beginning stages, with children continuing to experiment with lists, reporting etc., but some of the children began to construct a more advanced view of the purpose of expository text, thus differentiating between the purpose of narrative and exposition. This differentiation represents an advance in understanding different ways of making meaning through writing.

Year 5. The data for the fifth year is much more incomplete since we are in the midst of that year right now. The few samples available show the children continuing to experiment with genre. Caitlin, whose writing has seemed to be about a year behind the other children in development, is struggling with the differentiation between narrative and exposition. In a powerful piece about the birth of her sister she both recounted the events and reflected on her own feelings about the process:

When my sister was born I was real happy and scared. We wanted it to be at home but we had to go to the hospital because her ambirthical cord was
wrapt around her nece and she couldn't breath. When Kelley was born they couldn't get her to breath for four minuets. Wendy could only hod my sister for three minuets. Then they took Kelley away to take out the youconiom with little tubes. My sister had to stay ther one day and so did wendy. When Kelley and Wendy could come out of the hospital I had Marie's house. Oh I allmost forgot I fell asleep and they had to wake me up and I very scared that my sister would die. After Kelley was born Wendy Levy took me to the bakery and I got a cup cake with Ragedy Ann on it I brought Ragedy Ann to Wendy Welsh. I love Wendy and Kelley alot although we get in fight's some times so it just go's to show you that things can be scary and happy at the same time. By the way the hospital was Merit.

Caitlin's piece is reminiscent of Michael's piece on education, only in this piece Caitlin begins with a narrative and uses it to make a philosophical point: that things can be scary and happy at the same time. She begins and ends her piece with this thought, just as Michael began and ended his piece with the importance of education.

The three other children are in a classroom where in the first part of the year most of the writing they did was in response to assigned writing exercises, such as making descriptions, taking a different point of view, continuing a story started by the teacher, etc. Within the confines of these assignments they continue to wrestle with issues of genre. Sarah turned a description into "The Life of a Lemon" complete with narrative and exposition of the development of a lemon, a very sophisticated piece of writing. Stephen experimented with play writing in fulfilling another descriptive, point of view assignment; he also experimented with the shock value of bathroom humor and bad language on his audience. At this point, new levels of development are not apparent, although it is clear that the
children are refining their understandings of the purposes of different writing genres for communicating meaning.

The Influence of Heard and Read Literature on Structure, Style and Content

In many ways the influence of literature on children's writing is part of the development of genre, since it is obvious that the interaction between these two issues affects the development of both. However, what children read and hear read to them has such a significant effect on the kind of writing they do, both in content and genre, that it seemed important to highlight this phenomenon by taking a closer look independently at the written results of this experience. I will not go into great detail for each year, but will highlight certain significant occurrences for these four children.

Year 1. In the first year most of the writing is a label. However, for Sarah, who initially was most uncomfortable with being asked to write what she couldn't spell correctly, using the literature she could read as a resource was a good solution to the "I can't spell it" dilemma. She was beginning to be able to read simple linguistic readers like *A Pig Can Jig* where all the vocabulary is based on simple consonant vowel consonant constructions. Her first piece was, therefore, "THE CAT SAT ON THE MAT THE BAT SAT ON THE CAT" accompanied by a drawing of a cat sitting on a mat with a bat sitting on the cat. By the end of the first month she had given up dependence on basal reader spelling and language and was launched into her own constructions of spelling and meaning.

The content children used in the first year often came from the toys and fantasy games they played. For not only Stephen and Michael, but all the boys, battles raged through the journals, sometimes with current media figures such as G.I. Joe, sometimes with invented characters. The girls used heart people and flower people as characters in their drawings and writing.
Thus, the content represented the culture they were concerned with, that of fantasy and the characters the media invented for them.

**Year 2.** In the second year the children were exposed to a lot of illustrated poetry. Children wrote their own parts for different pieces they heard. In their imitations, they maintained the rhythm of the language in the original text, as in Stephen’s added verse for *My Cat likes to Hide in Boxes:* “The cat from the sun liked to fire a gun.” They also borrowed content from other stories they had heard; Sarah’s mouse house story quoted earlier is modeled on a story she had seen in her class called *The Mouse House.*

By and large, the use of television media figures and other fantasy figures disappeared from the story content. Most narrative was based on personal experience and presented as a truthful accounting of what happened. The children had yet to combine their own experiences into a fictionalized account to create a new story.

**Year 3.** In the third year the influence of different genres becomes much more evident. The children wrote their own fairy tales. Sarah’s piece, *King Clumsy IV,* whose ending was quoted earlier, has all the trappings of a fairy tale: a princess, a dragon, an adventure in which the hero is trying to rescue the princess and get home from where he is lost, magical maps and old men etc. In addition, she incorporated a Shel Silverstein poem she heard or read because she liked the way it fit into the story. Plagiarism was an unknown problem at this point. The children borrowed freely from each other and other writers.

Certain basic themes from literature appeared in the stories the children wrote. Stephen’s ongoing story that never ended was held together by the theme of being lost and trying to find the way home. Haunted houses with brave heroes who will get rid of ghosts appeared, as did invented stories.
about the children and their friends. These modern literature stories are similar in form and structure to the children's literature they were actually reading and having read to them. These stories also incorporated the children's wishes and desires, such as one child's wish for a pet otter, which was realized in a story her friend wrote for her.

**Year 4.** By the fourth year all the children were competent readers, and doing much independent reading. In their writing the influence of this children's literature, which began to be apparent in the third year, was more strongly realized. Thus, Sarah experimented with a different beginning in her *Fish Story* where she spoke directly to her audience. She had read such a beginning in many of the modern children's books that are available for her to read. Caitlin imitated a Bill Peet story in writing *The Remarkable Pig*, about a pig who could talk many different languages.

The children also mixed different stories they had heard. Michael explicitly mixed *Star Trek: The Next Generation* with *Charlotte's Web*, to write the beginning of a most peculiar story. He never finished this piece, an indication that this melange of topics and content was not successful for him. This experimenting with parts of different stories in different combinations shows explicitly how a child can construct and reconstruct his idea of an effective story. After all, both stories made a powerful impression on Michael as a reader. It made sense to him to try to combine those powerful pieces into one piece. That it failed is not of great importance, since in the process he learned what was or was not effective in creating powerful prose that made meaning for him and for his audience.

In the fourth year, the children began to use the information they learned in social studies and science to write their own pieces. Some of these pieces were suggested by the teacher; however, the children clearly made
these topics their own in the way they shaped the information to write effective stories. After a presentation by an underwater archaeologist, Michael wrote several stories in which he was an underwater archaeologist. He combined the information from the presenter with his own knowledge of the story of Atlantis and other myths to create very detailed, well structured stories. He chose to publish one of these and illustrated it in great detail. Sarah's and Stephen's *Fish Story* are of similar origin. They had been studying fish in class and had been asked to write a story about fish. Both children combined information they had about fish with the knowledge they had of writing effective stories to produce interesting pieces. Thus, children are learning to reach beyond their own personal experiences to use knowledge of content and structure to make meaning in writing in a new way.

**Coherence**

The analysis for both this section on coherence and the section that follows on part/whole coordination is even less developed than that of the three previous sections. The information presented here, therefore, is a first look at what appears to be development in the use of grammatical structures, local and global connectives, and the kind of language used in the children's pieces as they become more able writers. Coherence in construction of texts is linked with the making of meaning, but I am not ready at this point to relate it in as much detail as the previous three issues.

In the first year all pieces were written in the present tense. Because they were mostly labels written to accompany a drawing, they consisted of either *this is* constructions or active verbs in the present progressive tense. Sentences were short and usually consisted of one phrase only.
In the second year more advanced constructions appeared, with ideas combined into one sentence. Children expressed sequence, causality, conditionality and other relations in what they wrote. For example, Caitlin wrote: "I want my mom to have a baby if she has a baby I will help take care of the baby," expressing conditionality. Frequently, phrases were linked by and then... and then... to express sequence; all causal relations are then missing or implied. In this second year sometimes the past tense was mixed with the present tense indicating some difficulty in expressing sequential relations. What is evident throughout the year is, that as children become able to write more they confront new problems of construction of written language. Examining the coherence successes and error makes clear the issues they were currently confronting.

By the third year, most writing was locally coherent. Children continued to construct new ways of expressing relationships in writing, but the local coherent structures they used were more conventional. They basically abandoned the and then... and then constructions and tended to use more conventional connectives to relate one action to another within episodes. Between episodes they used a simple connective, thus creating the James Bond type texts mentioned earlier. Related to this construction is the fact that they maintained a topic over months, thus necessitating the use of some kind of connective between episodes, often using to be continued to introduce a new episode.

In the fourth year, the children experimented with different grammatical structures. Michael's ongoing baseball commentary was a new genre type that required the use of the present progressive tense in a narrative form, usually an oral rather than written construct. His attempt to apply it to writing is a good example of the kind of constructive and reconstructive
processes that are ongoing in writing development. The children also began
to experiment with imagery, similes, poetic rhythm and other kinds of
descriptive and expressive language. Such experimentation showed a
growing sensitivity on their part to the sound of language as enhancing the
meaning of language.

Part-Whole Coordination

One aspect of cognitive development that seems reflected in many
domains of knowledge is part-whole coordination, an aspect of the
development of classification and seriation, where children construct
hierarchical relations between classes. Issues of part-whole coordination arise
in mathematics in many strands (Black & Kroll, 1989; Piaget, 1965), in the
development of scientific thinking (Inhelder and Piaget, 1958), and also in the
development of literacy (Ferreiro & Teberosky, 1982). Ferreira discusses the
relationship between the development of part-whole coordination and the
development of sound-symbol correspondences, where children have to
understand that (in English) one symbol can stand for many different sounds
and also that one sound can be represented by more than one symbol. In the
semantic strand the influence of the development of part-whole coordination
is evident in how children coordinate the different parts of a text, how they
are able to add and delete information as they write, and how they account for
their audience as they take a more objective stance in their writing. Again,
the evidence for this development has yet to be well analyzed in the present
study, but certain aspects that clearly indicate development in part-whole
coordination in the domain of literacy are worth mentioning nonetheless.

To begin with the part is the whole. In the first year the picture or
concept was the whole and the writing labeled that whole. There was no
sequence, and no parts of the picture were discussed or represented separately.
By the second year a sequence of events appeared in some narratives, indicating the beginning of the construction of parts. In fact, the appearance of sequence marks one beginning of a sense of narrative form. Other parts of narrative form began to be used, such as the advent of markers like once upon a time and happily ever after or the end. The parts began to be distinguished, but were related sequentially rather than hierarchically. The bed to bed structure and the James Bond structure represented a sequential stringing together of events or episodes.

By the third year, as the James Bond type organization became transitional to a more anticipatory form of story structure, (i.e. the episodes became more related to each other), a sense of the relationship between the parts and the whole became more apparent. However, the children were unable to insert revisions or changes, and tended to tack them on to the end of a piece, indicating a lack of a simultaneous sense of the whole and its parts. During the fourth year, children inserted information as they thought of it, with phrases such as "I forgot to tell you" indicating a sense of necessity about revision, but an inability to insert new material into an already formed piece.

The mixing of narrative and expository form in the fourth year, while in some ways seeming to show a less definitive attitude toward the separation of parts, in fact represented an attempt to differentiate the whole from its parts. In other words, the sense of a theme or message became one purpose of the text and that message had to be coordinated with the parts of the text, which could be relayed by expository or narrative forms, or both. Story structure was anticipatory in nature, using different literary styles to support this coordination of parts. Expository form, which is not sequentially organized in the first place, and is, hence, more difficult to construct, was still at a more rudimentary stage. With narration the child began with the parts
and constructed the whole from the parts. This is less true for expository text, where analysis of text must begin with the whole and then be reduced to the parts and their relation to the whole in order to be understood. It is not surprising, therefore, that the coordination of parts and whole occurred later in exposition than in narration.

As children become more adept at coordinating the parts and whole, they were both better at making meaning in writing, and they found that they had more to mean. They were learning to write and writing to learn.

Integration and Differentiation of the Semantic Strand with Other Strands

I want to very briefly indicate how the making of meaning is integrated with other strands in writing development. The use of invented punctuation is a great example of how children combine all four strands, physical, symbolic, semantic and social, to make their meaning clearer. In his garter snake story (Figure 3) Stephen responded to his teacher's question about his story. He used arrows to indicate which questions he was answering on which part of the page. He did not turn the page over to answer, which would have been the most conventional thing to do, given the lack of space at the bottom of the page. He realized that going to the back of the previous page would confuse his reader, so he invented punctuation to take care of the problem. He invented an unconventional solution to a newly constructed problem—how to make his meaning clear to his audience.

The children often invented or elaborated on punctuation to emphasize what they meant. In the first year they often made marks between words to emphasize the separateness of each word, a symbolic and semantic act. In the fourth year stories were sprinkled with rows of exclamation points; a contest ensued to see who used the most exclamation points, a more conventional use of punctuation constructed for several purposes. To
indicate scary incidents, children wrote in all capital shaky letters, something they may have seen in comic books and had yet to differentiate the appropriate settings for decorative handwriting to enhance meaning. As the children developed, these punctuation and physical representations of meaning gave way to meaning enhanced by the words they chose. When they become adept at using word processing programs they will have a whole new realm of symbolic issues to coordinate with their semantic efforts to make meaning in writing.

More Discussion

In this paper I have not discussed the development of the physical, symbolic, or social strands of writing, although that information can also be derived from this body of data. While those issues are, of course, equally important in the development of writing, it is the semantic issues which have been neglected in the research literature. Here, I have discussed the children's development in the semantic strand year by year, in order to make clear the progression of development that occurred.

I have divided the semantic strand of development in writing into five basic issues: the relationship of drawing to writing; the development of different literary genres; the influence of literature; coherence; and part-whole coordination. Let us review, briefly, the development within each of these issues, looking at the changes in terms of construction rather than in terms of the passage of time.

The Relationship between Drawing and Writing:

Three basic levels are apparent in the drawing and writing relationship:
(1) Drawing serves as a rehearsal strategy. Writing is a label for the drawing;

(2) A transitional period in which drawing can be either rehearsal or an illustration for different parts of the text. Drawing can be used here to elaborate the text;

(3) Drawing is illustration. It represents one part or some parts of the text.

All the children are at level 3 at this point in their development.

The Differentiation of Literary Genres:

There are three basic levels in this category with sublevels at each level indicating development within each level.

(1) a. Genres are undifferentiated. Writing is a label.

   b. Personal narratives or descriptions appear.

(2) a. Personal narratives with sequence are written. Bed-to-bed constructions are used to create stories. Many genres of expository writing are attempted.

   b. Narratives are better differentiated; parts of narratives are used effectively. The structure of stories is linear or sequential. James Bond structure is used to create more complex stories. Different kinds of stories such as fairy tales, scary stories, stories about friends etc. are written. Personal writing takes on an epistemic function. Categories of expository writing begin to be differentiated, including using writing to convince the reader of a philosophical point of view.

(3) a. Well-formed narratives, true problems and strong structure as represented by the use of chapters to divide the text appear. Stories show some planning and anticipatory organization. Children are experimenting
with different poetic and expository genres, combining and differentiating different styles and types. New content sources are used.

In this category, Caitlin is at level 2b, while the other three children are at level 3a. None of the children is as advanced in expository text construction as they are in narrative writing. It is evident that development from one level to the next is a reconstruction process of genre, approximating adult literature more and more at each level. In the process, children create some of their own genre types, some of which they find effective and continue to use and some of which they abandon as failures in their search for making sense in writing.

Influence of literature:

Again three basic levels are apparent in this category, with sublevels at all levels.

(1) a. Basal reader language and media content are the strongest influences.

b. Literal imitation of heard poetry and stories is apparent.

(2) a. Themes and text are borrowed from literature, sometimes literally. Literature is used as a model, but it is incorporated into the child's own writing.

b. The child mixes his literary experiences, experimenting with changes in points of view, combining different genres and content.

(3) a. The child identifies particular styles in literature and tries them out; e.g. speaking to the audience at the beginning of a piece.

In this category, the child's literary experiences strongly influence the content of his writing. Nevertheless, the development is influenced more by the amount of literary experiences he has rather than the kind of literary
experiences. The four children are vacillating between levels 2b and 3a at this point in their development.

**Coherence**

The levels for this issue are very tentative. A much more detailed analysis of the children's writing will have to be done in order to be sure that these levels resemble reality. However, there appear to be three levels with sublevels in this category also.

1. One phrase sentences written in the present tense.
2. a. Children combine phrases to express relationships between actions and ideas in the text. Children mix tenses inappropriately. Children use a strong sequential or linear structure in writing longer pieces. There are gaps in local coherence. Texts are not long enough or developed enough to consider the issue of global coherence.
   b. Local coherence is intact; global coherence is problematical. As texts get more complex, children encounter new construction difficulties in coherence.
3. a. Children try new uses of language such as imagery, simile, metaphor. Texts are better organized, so global coherence is beginning to be mastered. Children experiment with different points of view and different voices in writing.

All the children are at level 3a at this point, experimenting in different ways with structure, tense, and poetic language.

**Part-Whole Coordination**

The integration and differentiation of parts of a text from the whole text is an ongoing process that reflects generic logical development in this area. At the first level, the parts and whole are basically undifferentiated, although towards the end of the this level some transitional differentiation of
parts is evident through the use of numerous illustrations for example. At the second level the appearance of sequence recalls the development of seriation. The children are able to write a sequence of events or ideas in logical order. However, if they forget something they add it on to the text, wherever they happen to be, ignoring its appropriate place in the sequence. In seriation development the same difficulties with insertion appear (Inhelder and Piaget, 1964). By the end of the second level the children show that they recognize that the added information should have gone earlier by writing "I forgot to tell you" before entering the new information. At the third level, children are able to revise and insert new information. At the beginning of this stage they are indicating a struggle with differentiating the parts from the whole while simultaneously considering the whole.

Conclusion

It is significant that one can see the children struggling with the same aspects of making meaning in the writing process in so many individual ways. Table 1 presents the different levels of development and shows the correlation of the identified issues within each level within the semantic strand. Examination of this table makes manifest the interaction between these different issues. For example, if one examines level 2a across the table, it is clear that the main developmental issue in the semantic strand of writing at that level is the beginning of a concept of sequence in writing. Sequence appears in drawing, in the personal narratives, in the beginning of the creation of bed to bed stories and the coherence links used to create those sequences, and in the beginning differentiation of parts of text. Such connections can be found across all issues within the semantic strand at all levels.
It is also important to note that the developmental levels I have proposed do not correlate exactly with the years the children have been in school. Developmental pace is individual; children do not all develop at the same speed. Caitlin's development during this period has been behind that of the other children in some ways, while Sarah seems in some ways to be more advanced. All children, given the opportunity, will learn to become good writers. The value of seeing the dissonance between levels and years of experience is that one can identify appropriate activities that will challenge a child to continue in his/her writing development if one understands at what level s/he is confronting a particular issue. Instruction can be designed that is developmentally appropriate for each child.

Learning to make meaning in writing is a developmental issue that children begin to construct as soon as they begin to write. In this study, issues that children face in striving to construct meaning in their writing can be seen to develop in a consistent way that can be identified within individual children's writing and across their individual experiences. Looking closely at children's writing over a period of years gives us insight into the development of writing. Such a fine-grained examination, coupled with knowledge of writing development, can inform elementary teachers of what issues children are currently constructing and reconstructing, thus informing instruction in a developmentally appropriate way. Individual differences can be understood within the whole continuum of writing development, allowing for more effective instruction for individual children.
REFERENCES


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<td>IIA</td>
<td>Drawing is rehearsal for the text Drawing is illustration of all parts of the text</td>
<td>Personal narrative with sequence Bed-bed Different expos. genres tried</td>
<td>Themes and text borrowed from literature</td>
<td>Combine phrases mix tenses linear Linear structure gaps in local coherence</td>
<td>Parts used to produce sequence Add new information only at the end</td>
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<tr>
<td>IIB</td>
<td>Drawing is illustration of all parts of the text Drawing is elaboration of the text</td>
<td>Narrative parts linear, sequential James Bond structure, fairytales, etc. Expos = convince reader of point of view</td>
<td>Mixes literacy experiences</td>
<td>Local coherence OK Global coherence problematical</td>
<td>Add new information as they think of it, but recognize it should go elsewhere: &quot;I forgot to tell you&quot;</td>
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<td>IIIA</td>
<td>Drawing is illustration of one or some parts of the text</td>
<td>Narratives with anticipation Chapters Poetry New content sources</td>
<td>Identifies styles from literature and tries them out</td>
<td>Try new uses: e.g. imagery, metaphor. Global coherence better</td>
<td>Revise Insert new information</td>
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G.I. TO IS FIGHTEN COBRA

G.I. Joe is fighting cobra.
February 5, 1986

The ERF
found a STREG
and the STR BNE
ES WICING

WWW YYY
Stephen
I am on soccer
I am sending
send forro.

Did the Stingrays play this weekend?
4-6

On Saturday night a tree fell down.
January 4, 1988
and tolled him this pome:
I'm the dragin of griglygrom and
when a brave nite comes along
to fite I taste him jest like a bun but ther
is one problem you see I kin' nites
mede as far and dun'ey awys come out well.

January 5, 1988
And so he fould the map and
he killed the dragen and rescue
the princess and
and got back home
and lived happy ever after.
This is night time at the hills.
He stopped for lunch.

The rabbit is flying.
2-13
I had it a bout a Month.
I got it from a Kid in mats Clas.

1-27
I Had a snake it was a 'grdysafe It did' from a disease
Stephen. Where did you get a garter snake? How long did you have it?
Then a train
Then on airline
Then Home.

My family is
going to Alaska
first a airline
Then a ship.
6-9

the day before yesterday I went to L.A and went to my grandmas.

and yesterday I went swimming at my aunts and went to Disney land.

and went to the

airport and ordiner but then we herd the horn of the airplane we were going to be on except we did not have tickets for the other airplane so we had to youas the
6-9
tickets for the other airplane
then there was a delay so we
couldn't eat dinner then there was another
delay then we had a snack on the airplane
then we took off

and when we got home the airport
we had tickets for was still at the other airport
because it had a big delay. My brother
was kind of Disney and gave me his
6-9
When we got home
he told me we could
share the royal cat
gafeld
This is a fun list to read more about Hannah's favorite things.

Hannah's favorite food is chocolate. Her favorite drink is water.

Hannah's favorite color is green. Her favorite animal is a cat.

Hannah's favorite sport is soccer. Her favorite subject is science.

Hannah's favorite book is "Charlotte's Web." Her favorite TV show is "SpongeBob SquarePants."

Hannah's favorite place is at her grandparents' house.

Hannah's favorite pastime is reading.

Hannah's favorite movie is "Frozen." Her favorite holiday is Christmas.
12-3-87

I wish I was His toree and my muthr was His toree.