19 *The Development of Initial Literacy*

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When I first began to study how first graders learn to read, I discovered that even those children who had taken tests which predicted they were not good risks for learning to read provided evidence that they had all kinds of knowledge about written language. All were aware of the alphabetic nature of English print. They knew that the print in books and on other objects in the environment communicated written language messages. They knew how to handle books—which way was up, how and when to turn pages, and which aspects of the print were significant for reading and which were not. They knew that print was read from left to right most of the time. They were already predicting and confirming, using graphophonic, syntactic, and semantic cues with varying degrees of proficiency. They used pencils to write, observed the writing of others, and knew that what they had written could be read. It slowly became obvious to me that children's discoveries about literacy in a literate society such as ours must begin much earlier than at school age. Becoming increasingly aware of the significance of social context and with a developmental view of learning, I hypothesized that children develop notions about literacy in the same way that they develop other significant learnings: That is, children discover and invent literacy as they participate actively in a literate society. I believe that *all* children in our highly literate society become literate, even when they are part of a group within that society that values literacy in ways different from the majority.

In this chapter, I explore the kinds of learnings that all children develop as they become literate, the kinds of personal as well as environmental factors that play a role in literacy development, and the kinds of written language principles young children develop as they interact with their environment (Goodman, 1980; 1982). These explorations are based on research I have been doing with two- to six-year-olds since 1973 (Goodman and Altwerger, 1981) and on the research of others who have greatly influenced my work (including many whose work appears in this book).

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Generalizations About Literacy

Building on the work of Halliday (1975), K. Goodman and I extended to literacy learning the idea that learning language is learning how to mean. The child learns how to mean through written as well as spoken language. Initially, as children interact with the literacy events and implements in their culture, they grow curious and form hypotheses about their functions and purposes. They discover, as they are immersed in using written language and watching others use it, that *written language makes sense.* It communicates or says something. As this generalization begins to develop, children also become concerned with the organization of written language in terms of *how it makes sense.* They begin to find stability and order in the form of written language in the everyday context of its functional use. As these two generalizations are developing, children discover that *they can make sense through written language* as they use it themselves. They develop control or ownership of the strategies of comprehension and composition similar to those they have used in oral language, making allowances for the different constraints of written language forms and functions. They become more intuitively aware of the transactions among the reader, the writer, and the written text. These three overarching generalizations are driven by and, in turn, drive the development of the roots of literacy as children continue to experience written language.

The Roots of Literacy

Although it may seem obvious, it is important to remember that children's development of literacy grows out of their experiences, and the views and attitudes toward literacy that they encounter as they interact with social groups (the family, the local community, and other socioeconomic classes, races, or ethnic groups). The soil in which the roots of literacy grows has significant impact on each child's development (Goodman, 1980). The ingredients in this soil include the amount of functional literacy that children encounter in the environment and the quality of those encounters; the attitudes and values about literacy expressed by other members in the social group; children's intuitive awareness of the symbolic nature of oral language, art, music, and dance; and children's own oral language.

Literacy can be said to have three major roots, each with smaller branches within it. These roots are:

1. The functions and forms that the literacy events serve,
2. The use of oral language about written language, which is part of the literacy event and reflects society's values and attitudes toward literacy,

3. Conscious awareness about literacy, including its functions, forms, and context.

Functions and Forms of Literacy

Children develop both reading and writing as they participate in meaningful literacy events. They develop control over functions and forms of reading. They respond to names, logotypes, and directions that usually occur as one- or two-word items embedded in conventional environmental settings. Their responses show understanding of the symbols' meanings even when the item is not read according to its conventional alphabetic form. For example, a stop sign may be referred to as "stop," "don't go," or "brake car" but, for the child, the meaning is the same. In learning to read environmental print, there seems to be little difference among social class groups.

The ability to read connected discourse, which includes books, newspapers, magazines, and letters, also develops through children's participation in literacy events. In this area, though, there are differences in responses among social classes. Although economically poor children develop ideas about connected discourse and know a good deal about how to handle books, middle-class children seem to develop greater flexibility and adult conventional knowledge about this type of reading. There are wide individual differences within all groups, but all the children who have been studied have some knowledge of book-handling before they come to school.

The functions and forms of productive writing also are developing in all the children we have studied before schooling. They know what purpose writing implements serve and, at a young age, they respond in different ways to "draw a boy" and "write boy." As with reading of connected discourse, productive writing varies a great deal from one household to another.

Using Oral Language About Written Language

Children and other members of society talk about the literacy events in which they participate. Words such as *read, write, pencil, story, letter,* and *book* all relate to concepts that are expressed orally during a literacy event. At fourteen months of age, Alice brought her mother a book and said, "Read me, read me. " Eduardo, aged three and a half years, pointed to a large *M* on a bulletin board and asked his dad, "Does that say McDonald's?" Children as young as three years begin to use *say* as a metaphor for *read.* "What does this say?" and "this says my name" are common expressions used by three- and four-year-old children in response to written language.

Children talk not only about written language that relates directly to the literacy event itself, but also about literacy experiences in relation to schooling, job hunting, books read, or Bible use. These interactions all influence children's developing attitudes and values about literacy, including belief in their ability to learn to read and write. Some children as young as three years

be learned in school, whereas others are confident that they read already and that no one has to teach them because, as one youngster put it, "the words just fall into my mouth." These attitudes seem to be related to social class differences. Middle-class children tend to respond more confidently to learning to read than do lower-class children.

Conscious Knowledge About Literacy

At the same time that children use written language functionally to read and write and to talk about those experiences, they become aware of written language as an object for study and discussion. This conscious awareness—being analytic about the functions and forms of written language—develops in concert with the use of written language. It has been called, by some researchers, *linguistic* or *metalinguistic awareness.* Although I do not reject these labels, I believe it is important to distinguish a conscious or overt knowledge about language from intuitive awareness that children demonstrate when they use language. Reading, writing, or using oral language in the context of reading and writing is not necessarily conscious knowledge. The child is using linguistic knowledge intuitively just as he or she does when speaking or listening. Likewise, calling written forms by linguistic labels may not demonstrate conscious linguistic knowledge, since the child may at this point know the names of the forms and functions of literacy without consciously analyzing them. Children can appropriately call a dog by its name long before they can explain that it always has four legs and barks and why it is more like a cat than like an elephant or a fish.

There is evidence that children do begin early to develop conscious knowledge about the forms and functions of written language. Quincy, aged four years, says as he looks at the word *Ivory* on a card which has had its logotype retained: "It says soap, but you know if you put a dot up here (he points to the *i*) that's in my name, and if you put a line down here (he points to the *o*) that's in my name, and this . . . this . . . (he is pointing to the *y*) this is. (Then he points to each finger on his left hand with one of the fingers on this right hand as he continues his analysis.) This is a *q-u-i-n-c-y*. . . . That's a *y*." Quincy is an example of the many children who develop conscious knowledge about written language before they receive formal instruction in school.

Principles of Literacy Development

Thus children have many experiences with written language as they grow. For some children, these experiences begin when they are as young as 6 months old, as mothers and some fathers read to their children, enveloping the child and the book together into an emotionally satisfying literacy event. Other children generate written language in other kinds of literacy events (for example, looking for a particular gas station that sells at the lowest price;

watching for a particular written symbol on television because, when that symbol appears, the child will be allowed to stay up late).

As children participate in literacy events, actively reading and writing, they develop three major principles about written language: The *relational* or *semiotic principles* are the understandings that children have about the ways that meaning is represented in written language, the ways that oral language is represented in written language, and the ways that both oral and written language interrelate to represent meaning. The *functional principles* are the understandings that children have about the reasons and purposes for written language. The *linguistic principles* are the understandings children have about how written language is organized and displayed so that communication can occur, considering the orthographic, graphophonic, syntactic, semantic, and pragmatic systems of language.

During early development, children may construct principles which they later have to discard. Some of these principles may actually interfere with the development of others for a period of time. The principles will overlap and interact, and the children will have to sort out which principles are most significant to meaning and which are not very useful; which operate differently given the constraints on each; and finally, which may be important in the understanding of other symbol systems the child is developing. These principles cannot be taught through traditional structured reading programs. They emerge for all children, but because of the idiosyncratic nature of the use of written language, the times and ways in which these principles emerge will vary extensively.

Relational Principles

Children learn to relate written language to meaning and, where necessary, to oral language. They develop the knowledge that some unit of written language represents some unit of meaning. Although this relationship may include words or letters, it also includes propositions, ideas, concepts, images, signs, symbols, and icons. Many children also know that their drawings represent ideas or things in the real world. They know the picture of a dog is not the dog itself but represents a dog. By the time most children enter school, they are aware that written language represents meaning. The developing writer and reader comes to know the relationships between writing, the object being represented, oral language, and the orthography.

These relational principles can be observed in a number of ways. Ferreiro and Teberosky (1982) suggest that children first believe that written language is a particular way of representing objects. It is not a drawing but acts like a drawing as the children respond to it. Children believe that print related to a picture says the name of the items represented in the picture, not that it is an oral language equivalent to the print. According to this theory, for children at a particular level of understanding, print that reads "the boy plays ball" says "boy" and "ball," although the children may interpret the

is an equivalence between oral and written language, first treating it as syllabic and finally as alphabetic.

My own research with children in English provides support for these conclusions drawn from research with children in Spanish and French. When told to write his name, three-year-old Josh wrote what appeared to be a small — . As he did this he said, "This is a boy." Then, without any further probing, he wrote a much larger character— —which resembled the first in form, and he said, "This is a dad." Finally, at the bottom of the paper, he made the same character even larger— —adding a second character which looked like an *O* superimposed over the first, and said, "This is the boy and the dad together."

Josh's father's name is Joseph. Although the child was using characters that resembled the first two letters of both his and his father's names, these characters did not represent sounds for him; they represented "the boy" and "the dad." The child was able to represent his meanings in written language, and these meanings signified something in the child's personal experience. After a period of time of using size, shape, and number to invent written language children develop alphabetic principles to relate oral and written language.

Children also show their developing awareness of the relationship between the length of the written string and the oral string. As they read or write, children will elongate their oral response to match their reading or writing. Eric, four years old, read "cee-ree-ull," stretching out the sound until he was finished pointing to the words *Kellogg's Raisin Bran.* As Mary wrote her name, she continued voicing the sounds of her name until she was finished writing it. Observation of children pointing with their fingers while an adult reads to them or of children's oral production as they watch an adult take dictation provides evidence of this developing principle.

Additional evidence of the development of the relational principle has been provided by researchers who have shown that children know written stories are represented in books following a particular story format (Doake, 1981; Haussler, 1982). They will repeat almost verbatim a whole story that has been read to them often, showing that they know how to represent the story form as well as its meaning.

Functional Principles

The degree to which literacy events are meaningful and purposeful to the child and the value those events have for the child will influence the development of functional principles. In homes where parents are college students, computer programmers, or authors, children will discover functional principles different from those developed by children whose parents read only the Bible daily or whose parents use writing selectively for shopping lists, filling out forms, and taking phone messages. Negative or positive statements made by adults about schooling and the ability to read and write, and the difficulty with or pleasure derived from reading and writing as shown by adults will also influence how

Specific functional principles that children develop early include ownership and labeling, extension of memory, sharing information about self and others, invitations and expressions of gratitude, representation of real and imagined events (such as narratives), and control of behavior and information. For example, children will produce their own name as a label or recognize their name in appropriate settings. When children respond to printed items embedded in context, they tend to use nouns for naming items and imperative phrases for direction-giving signs in the environment. Stores and names of products and games usually are called by related names, whereas stop signs and school crossing signs elicit responses such as "don't go" or "watch out for kids." We have samples of children's notes, written a year or two before they enter school, which express a concern, a message, or an invitation for their parents or siblings. These are real uses of spontaneously produced written language.

In addition, the play in which children participate prior to schooling, both at home and in child care centers, demonstrates the development of functional principles. As children pretend to be mothers, gas station attendants, store clerks, doctors, or teachers, they use reading or writing appropriate to those occupations. The impact of home minicomputers and the new computer age in general on the functional principles of literacy that children develop can only be speculated about at this time, but that this understanding of literacy will appear in the play and real use of written language by children between the ages of two and six is unquestionable.

Linguistic Principles

Linguistic principles help young children solve the problems of (1) how the written language system is organized, (2) how the organization of written language changes, depending on its function and its relationship to other symbol systems, (3) what the units of written language are, depending on its functional and relational uses, (4) which features of written language are most significant in which settings, and (5) the stability of the organizational system (that is, which rules are most reliable and which are not very useful).

The evidence shows that children hypothesize about all the linguistic cueing systems needed for written language. The orthographic system, including directionality, spelling, punctuation, and form variations, as well as the graphophonic system, is new to children. The phonologic, syntactic, semantic, and pragmatic systems are developed through oral language use, and children exhibit a growing awareness of how these systems operate differently under the constraints of written language.

Children's early scribbling resembles the writing system used conventionally by adults in a society, but the writing of children in an Arabic literate culture will look different from the writing of children in an English literate culture. Samples of children's writing demonstrate that written language can be represented by single characters as well as in a scriptlike form. Punctua-

Children seem to work through some of the same problems that the adult inventors of written language historically have had to solve, such as which way to display letters and how to organize the writing into units. Aesthetic issues are evident in children's work as they balance their art with their writing. Children explore these problems, discovering solutions that may be more appropriate for orthographic systems other than their own. For example, Roxanne, a six-year-old, wrote a story with no spaces between her words, but she made the final letter in each word backwards when possible and underlined the last letter when it was not possible to reverse it. In Hebrew, some of the final letters of words are marked so that they look different from the same letter in medial or initial positions. When Roxanne was asked why she had done this, she said, "So you can read it better."

The work of Charles Read (1975) and others has provided insights into the ways in which children invent a spelling system based on their knowledge of phonology. Their spelling becomes more and more conventionalized, regardless of instruction.

Punctuation is another convention that children begin to develop as they write. Bissex (1980) reports that her son used the exclamation mark before any other form of punctuation. Other children discover the use of the period, sometimes overgeneralizing its use as a word boundary marker before they control the use of space to separate words. At age six years, Jennifer used dialogue in her first-grade writing, but it was not until she was seven years old that punctuation related to dialogue appeared in her stories:

January, Grade 1

> . . . The master yald at hem you onle have two galns of hone he tot to the flor He sed tri to gev me som mor natr. [The master yelled at him, "You only have two gallons of honey." He talked to the flower. He said, "Try to give me some more nectar."]

March, Grade 2

> . . . "So he said I will go the camping stor, and I will ask what I need to go on my trip." . . . So he "said Im going camping"

Children provide evidence that they know about syntactic aspects of written language as well as the semantic and pragmatic aspects. For example, children develop control over the principle that some morphemic endings remain the same regardless of their phonologic composition. At age four to six years, children spell words such as *walked, jumped,* and *kissed* with the letter *t* at the end. (See Jennifer's spelling of *talked.*) Later, they realize that *ed* is the most common graphic representation of past tense in English. Some young readers overgeneralize this rule, reading or writing *walkted* for *walked.* Two first graders, in spontaneous writing, showed additional evidence of experimenting with morphemic issues. Carol, writing a letter to her grandparents, spelled the ordinal numbers as "firSt," "fourSt," "sixSt," as she was relating what grades she and her brothers were in. However, when she read the letter

read the words *sisters* and *brothers*. Could his morphemic endings have been overgeneralizations from the spelling of *children*?

Miscue analysis, which compares readers' observed oral responses to the listeners' expected responses, has provided evidence that children control syntax as they read. Miscues result in syntactically and semantically acceptable sentences, and substitution miscues are most often the same part of speech as the expected response. When children even as young as three years are reading or writing narrative stories, they usually begin with "once upon a time." We have never collected a child's letter that began with this traditional story starter. Rather, most letters open with "Dear ———," "how are you?" or the like.

There may be certain hierarchical sequences in the development of specific principles of language. For example, it seems that children develop a syllabic principle about written language before notions about alphabetic principles emerge. Also, children do not seem to represent the preconsonantal nasal when they begin to invent spelling in English, although it appears later in their development of literacy skills.

Learning to Become Literate

The development of written language is very complicated. The generalizations about and the roots and developing principles of literacy all interact as children develop control over making sense through written language. With this knowledge, children enter school where, too often, they are placed in a rigid instructional setting that ignores and is incompatible with what they already know. No published instructional program has ever provided the generalizations and concepts that people must develop to learn to read and write. A highly structured instructional system that focuses on mastery of one rule or skill before another loses sight of the complexity of learning written language. It oversimplifies what children really do learn and focuses some insecure children on insignificant and often erroneous principles about language.

In further research, each aspect of written language must be studied in greater depth and over longer periods of time. The focus should be on single subjects and on groups of children from widely different backgrounds who are reading and writing spontaneously. We must have more evidence of how capable the human toddler is of solving his or her personal needs for written language.

School is an important setting for literacy learning. There, the learning of literacy skills can be an exciting and stimulating experience; however, it can also be discouraging and inhibiting. Teaching children literacy through functional use has been advocated for more than eighty years (Iredell, 1898; Huey, 1908). Although there still is much that researchers and teachers must learn about literacy learning and teaching, we currently have the scientific foundation for helping teachers make learning to read and write an exciting

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