CHAPTER 13

Literacy Development for Infants and Toddlers

Susan B. Neuman

Scientific evidence from recent groundbreaking syntheses (Bowman, Donovan, & Burns, 2001; Shonkoff & Phillips, 2000; Snow, Burns, & Griffin, 1998) now
provides incontrovertible evidence. Over the last few years, there has been an explosion of knowledge about how infants and toddlers develop, leading to a whole new appreciation of ways in which a baby's earliest experiences set the
stage for later learning and social-emotional development. Today, we recognize that the first 5 years of a child's life is a time of enormous growth in linguistic, conceptual, and social competence. Right from birth, healthy infants use all their senses to explore, try to control their environments, and master their UnIverse.

These early years have tremendous consequences, not only because this period of development provides an indelible blueprint for learning, success, and wellbeing, but also because it sets the foundation for what will follow. From birth through age 5, children develop the foundational capabilities on which their linguistic, cognitive, social, and emotional development builds (National Research Council & Institute of Medicine, 2000). And in these early years, all of these critical dimensions of early development are interrelated. Each requires a great deal of attention.

This chapter describes the beginnings of literacy development for infants and toddlers. It argues that literacy in these early years is more than the development of cognitive skills such as decoding, rhyming, or handwriting. To the contrary, literacy consists of mastering a complex set of attitudes, expectations, behaviors, knowledge, and skills (Neuman, Copple, & Bredekamp, 2000). But

children do not learn these behaviors as if by magic nor do these behaviors naturally unfold with age. Rather, early literacy development takes place in the context of children's interactions with others and with supportive relationships with their immediate caregivers, first at home, then in the neighborhood, and eventually in other care settings.

Bridges to Literacy

For infants and toddlers, the beginnings of literacy may not look much like reading or writing. Instead, beginning literacy appears in activities such as pretend play, drawing, and conversations about books with their closest personal relations, their family (Mclane & McNamee, 1990). During these years, children learn to use these multiple symbol systems in increasingly defined ways to create and communicate meaning. These symbols may include words, gestures, pictures, numbers, and objects, all wonderfully configured into a mixed medium to represent their imaginative ideas and creative thinking. Children use these early symbolic activities to build bridges to literacy (Dyson, 1988).

Babies who grow up experiencing reading and writing in many facets of their everyday lives begin to understand the purposes that literacy serves. As children encounter written language, they try to figure out how it works. They form hypotheses, play with ideas, and sort out relationships. It is important, then, to recognize that children are not passive receptacles for the knowledge delivered by others. Rather, they follow a logic of their own (which may look very different from adult convention; Gibson, 1979) and are active constructors of understandings about written language.

In 1998, the International Reading Association (IRA) and the National Association for the Education of Young Children (NAEYC) developed a joint position paper on developmentally appropriate practices in learning to read and write (IRA & NAEYC, 1998). The document describes a portrait of a young literacy learner and the various milestones that children pass in the early years along the path to literacy (see Table 13.1).

The following sections describe some of the unique characteristics of infants' and toddlers' developing awareness of writing and reading as well as recommendations for how families and caregivers can support these discoveries on the road to conventional understandings of writing and reading.

Table 13.1. Literacy Learning in the Early Years

Babies can

- Enjoy listening to books with familiar objects.
- Point and look intently at pictures and identify objects.
- Hold a book right side up and turn the pages.
- Play with language, rhymes, and songs.
- Write scribbles and lines on paper.

Toddlers can

- Enjoy listening to and talking about storybooks.
- Begin to understand that print carries a message.
- Engage in early writing attempts.
- Identify signs in their environment.
- Participate in rhyming games.
- Use approximations ofletters to represent written language (especially meaningful words like their name and phrases such as "I love you").

To help literacy learning, caregivers can

- Share books with children from the very beginning of life.
- Establish a literacy-rich environment.
- Re-read favorite stories.
- Engage children in language games.
- Talk with children.
- Encourage children to recount experiences and describe ideas and events that are important to them.
- Visit the library regularly.
- Write with children.

Adapted from IRA & NAEYC. (1998).

The Early Stages of Writing Development

Beginning about the ages of 18 months to 2 years, most children begin to be fascinated with writing objects. They are able to hold a large pencil and, if offered paper, will begin to scribble. Scribbling first appears to be rather random. Toddlers love to explore the movement of pencils, crayons, and markers

on paper. But as they gain greater control and coordination, what soon emerges from this scribbling are recognizable shapes, lines, and patterns (Clay, 1991).

Our youngest writers tend to experiment with the visual features of writing, exploring the distinctive features of shapes or letter-like forms. Distinctive features of the English alphabet, for example, include straight and curved lines; open and closed curves; and diagonal, horizontal, and vertical lines. Some letters are closed *(D,* 0) while others are open (c, *L).* Some have curvy lines *(5),* while others are straight (1), and some are diagonal (K). In a fascinating series of experiments, Eleanor Gibson (1979), found that very young children tended to group letters together on the basis of their perceptual characteristics (e.g., whether or not letters were closed or open). She found that to distinguish one letter from another, children needed to pay attention to what makes them different rather than what makes them similar. Generally this insight begins at approximately age *2V2* and develops as children have encounters with print in their environment.

At these young ages, children often begin to display their understanding of what writing is all about (Neuman & Roskos, 1992). They begin to use their writing in pretend play. They write orders, pay checks, and make lists, all to embellish their dramatic play. Although "just play:' these' early activities indicate that children are beginning to understand the functions and purposes of print. They are also beginning to recognize that writing is an activity worth knowing and that it can be manipulated to suit their needs. These beginning adventures with writing provide a powerful motivation for children to learn to write to communicate with others.

For many young children, drawing and writing are closely linked in these early years (Dyson, 1988). Sometimes children draw pictures, write random letters, and scribble all over the page, playfully manipulating shapes and experimenting with different forms. But at other times, young children begin to combine drawing and writing to convey a message, which may be interpretable only when it is explained to an adult or an older peer. At this point, children do not recognize that writing is meant to stand on its own and can substitute for talking. Rather, all of these mixed media-talking, writing, drawing-are forms of expression for young children.

Children's emerging word creation strategies are fascinating in these beginning years. For example, a toddler might use two "marks" to write her own name,

.

but four "marks" to write her mother's name, explaining that mother is bigger and older (Schickedanz, 1998). Or, given a choice between two pictures and their corresponding two words, for example, *mosquito* and *cow,* a child might say that the shorter word *cow* is longer because a cow is bigger than a mosquito. Children also develop a visual design strategy, assuming that each word has its own special "design." Because they do not yet attend to all the distinctive features of a word, such as different letter forms, they rely on the special design to differentiate one word from another. Another strategy that some children use is to assume that any word beginning with the same letter as their name *is* their name.

Even in the first 3 years, it is important not to be guided by strict developmental timetables when caring for children. Although many children begin to show an interest in writing at age 2, some do not. Individuals vary considerably in early writing development (Read, 1971), depending on children's exposure to print and opportunities to observe and engage in writing activities. Some children may have difficulty grasping objects, showing minor delays in fine-motor control. In addition, an individual child's "writing" might vary in different contexts. For example, when pretending to write a message in the kitchen play center, Rachel may use scribble, which may approximate cursory writing. At other times, when writing a valentine, she may write real letters if it suits her purpose. All of this variation implies that the course of writing development is not always linear, nor does it occur in fixed sequences. In fact, there are no reliable developmental milestones tied to specific ages and stages of writing.

Although the process of learning to write differs among children, it is not totally random. As children progress and are exposed to print, usually at least by age 3, their more controlled scribbling begins to acquire some of the characteristics of print. Marie Clay (1975), a New Zealand educator who studied children's early writing, found that children begin to notice the visual features of print. They notice its linearity, its horizontal orientation, and the arrangement of letter-like forms. For example, a child begins to recognize (a) that letters consist of a limited number of shapes that can be put together in various ways and (b) that the shapes can be used to generate letters as well as letters and words. Sometimes this realization leads a child to write "strings of letters;' writing the same letters many different ways, in many different arrangements or positions, or reproducing letters in long strings that are more or less in random order.

Between the ages of 4 and 7, children begin to try to translate the words they hear and can say into the letters that spell

them. This effort is the beginning of the development of an alphabetic principle (Adams, 1990), the understanding of the match between letters and their sounds. Not surprisingly, the first word most children learn to spell is their name. This accomplishment places them on the road to learning many different things about print. They learn about beginning sounds. They learn that a name starts with a capital letter that is followed by lowercase letters. And most important, they learn that there is a set order to the letters in their name and that order never varies. This insight marks an important transition to conventional reading and writing.

Children's development in writing, therefore, depends on a number of factors: Interest, opportunities to write, and the amount of informal feedback from a caring adult. When young children have lots of opportunities to observe, engage, and interact around writing, they develop and refme their initial hypotheses about how writing works. With adult involvement, they begin to make active comparisons between their writing and "the adult way." In these playful contrasts and comparisons, children begin to use writing to communicate with others.

The Early Development of Reading

Two-year-old Christopher can't read yet, and he hasn't shown much interest in letters. But he is always eager to listen to books. When he and two friends at his child-care center listen to *The Three Little Pigs,* they shout, "And I'll huff, and I'll puff, and I'll blow your house in:' As Ms. Helen reads on, they wait for the next episode, only to repeat the lines even louder this time. While they are enjoying the story, these children are probably not aware that the little black squiggles on the page are telling a story and that the words in the book are always the same. Nevertheless, they are learning important features of written knowledge, its rhythms and cadences, and they are displaying their knowledge of language structure. They are learning to participate in book reading activities and to "talk like a book" which will have important consequences in successful reading later on (Snow, Tabors, Nicholson, & Kurland, 1995).

Storybook reading to children is the single best predictor of their success in learning to read. Even though their attention spans may be short, studies (Senechal, leFevre, Thomas, & Daley, 1998; Whitehurst et aI., 1988) indicate

that babies and toddlers benefit significantly from listening to stories. They learn to focus their attention on the words and the pictures. Storybook reading between caregivers and children at early ages is highly social. Interactions are playful or game-like while they are also instructional. Many caregivers do not just show the pictures to children but, instead, talk about them, asking questions like "What's that?" or making comments like "That's a lion. Remember when we went to the zoo?" Ms. Darlene, for example, finds that the clear photos of everyday objects and animals in Tana Hoban's (2003a, 2003b) board book series (e.g., *Black on White, White on Black)* fascinate 10-month-old Devon for about 5 minutes as he focuses all of his attention on one particular page. Later on, Ms. Darlene finds him intently looking at the pictures by himself, holding the book and turning the pages.

Even if babies and toddlers don't seem to be attending carefully, they are absorbing the sounds and rhythms of their caregivers' voice (Friedberg, 1995). An 8-month-old, for example, listens to the words from a short book, especially one with pictures of familiar objects. A I-year-old baby who has been read to, may already know how to hold a book right side up and turn the pages from front to back.

Certain types of books are especially intriguing to babies and toddlers (Neuman, 1999). Books with photographs or drawings of animals, people, and single brightly colored objects draw children's attention and interest. Easy-tohold board books that can stand lots of hard wear enable young toddlers to "read" by themselves. Interactive books such as the Spot lift-the-flap stories by Eric Hill, provided in Spanish and English, playfully reinforce children's efforts to master the basics of book handling. Book care is an important lesson even though adults know that books are not to likely last long in the hands of toddlers. Books that take children though familiar routines or repeated phrases ("Marvin K. Mooney, will you please go now!"(Seuss, 1972) help young children become part of the story due to its predictable patterns and repetitive language. Teachers fmd that children like Devon have a tendency to chime in, saying the last

words of the phrase "will you please go now!" Such chiming is a positive feature of early engagement. It provides for all sorts of language play, allowing the young child to say and use words that might be new and unfamiliar, and it keeps the child's attention from wandering. And of course, nursery rhymes are well-loved at this early age.

w

After hearing books several times, toddlers begin to pick out their favorite books by seeing the covers or even just the spine that runs down the side of a book. They are learning to "read" the landmarks and signs on a book, much as they are beginning to read familiar signs in their environment, such as the "stop" or "exit" signs. Toddlers are not really reading the words yet, but they are beginning to get the book's message from the arrangement of pictures, letters, colors, and patterns, reminders that symbols carry important messages. They are also learning how to figure out sequences of events from looking at the pictures.

Children at this age, and sometimes even younger, can begin to tell a story from a familiar book (Friedberg, 1995). Most adults have seen a child hold a book facing out the way an adult would read in front of a group, and "read" it to a pretend audience of friends or stuffed animals. Some toddlers hold the book in their laps and quietly tell the story to themselves. They are practicing learning to be readers just as when they were babies they practiced their intriguing language sounds until they mastered the art of speaking.

For children at these young ages, story times work best when they are relatively brief (about 5 to 10 minutes) and conversational (Neuman, 1999). Sitting side by side with one or two children has its special advantages. Children nestled close can follow the text and pictures closely, ask questions, and point to their favorite characters. In some cases, adults might go with one child to a cozy spot away from the others to help the child concentrate on a book for brief, highly interactive readings. If the story is not completed, that doesn't matter. Rather, the point of these beginning storybook times is for the interaction to be enjoyable and to be filled with language. Caregivers can choose among many "readable moments" throughout the day: time between activities, quiet times, or moments when stories can bring the day to a fulfilling close.

The Importance of Assisted Instruction

It is the end of the day at Tiny Tots, a busy time when parents are picking up their children and gathering their many things. Three-and-a-half-year-old Edward and his cousin, 2-year-old Kalief, have their attention riveted not on the door, however, but on the short book *Houses* being read by Ms. Kimberly:

Ms. Kimberly: Do you see the plumber KalieR

Edward: I see the plumber.

Kalief: He's working on the pipes. I bet he's working on the pIpes.

Edward: Here go the ladder.

Kalief: There go the lights.

Edward: Who's in the house?

Kalief: A worker man?

Ms. Kimberly: The workers are painting and putting up the doors and the windows.

Edward: Turn it [the pagel back, turn it back, turn it back, I want to see the worker man.

Ms. Kimberly: *(turns back the page).* Here's the workers. The workers leave. That means they go home. You know like when you leave here with your mommy. They go home.

No doubt, Ms. Kimberly would consider this informal conversation rather typical and uneventful. But there are a number of striking features in this bookreading activity. For one, Ms. Kimberly has selected a book that is challenging, but understandable (Lidz, 1991; Rogoff, Mosier, Mistry, & Goncu, 1993) for the children (IRA &

NAEYC, 1998). Although it contains many new words, the topic is highly familiar and interesting to the boys. Here, the children are labeling words that are related to their everyday lives.

Notice that Ms. Kimberly begins by recruiting their attention and asking the children to focus on a page. Once they become involved, she steps back a bit, as they give meaning to the pictures. She then helps the children define "workers" and extends the description beyond the printed page, bridging what is seen in the picture to what they can relate to in their own lives. In this respect, Ms. Kimberly provides some level of metacognitive support, controlling and taking

primary responsibility for higher-level goals while the children engage at a level in which they are capable at the time (Diaz, Neal, & Vachio, 1991).

Within the context of a book-reading activity, caregivers may accentuate certain features as being more relevant and meaningful than others. Through this process, children learn the labels of common objects as well as the relationships among objects and events. Once the context and meaningfulness of an activity are conveyed, caregivers may extend children's understanding by linking the activity to something that is either within or slightly beyond the children's own experiences. For example, Ms. Kimberly defines what it means for the workers to leave, then compares their movement with the children's own activity of leaving for the day. This task of connecting concepts is seen as essential for intellectual growth, helping children make sense of present experiences by relating these issues to the past. This task also may facilitate children's understanding of events that cannot be actually be perceived, by encouraging them to employ their imagination to anticipate further activities. Sigel and his colleagues (McGillicuddy-De Lisi, Sigel, & Johnson, 1979; Sigel & McGillicuddy-De Lisi, 1984) have described this concept as "distancing;' and have documented the association of these behaviors to the cognitive evelopment of preschoolers.

Not seen in this particular interaction but a critical feature of assisted instruction is the transfer of responsibility from caregiver to child (Rogoff, 1990; Tharp, & Gallimore, 1988). Caregivers need to carefully gauge their support to see when children are able move ahead or beyond their current level of ability. Caregivers may encourage and prompt the children to turn the pages, to ask questions, and to predict what may come next so the children can work toward independence and self-regulation. For example, the next day, Ms. Kimberly places the now-familiar and well-loved book *Houses* in the block area or the classroom library so Edward and Kalief can "read" it by themselves. They may sit in the corner and re-read the story. Or they may use blocks in the block corner to construct a house, with ladders, pipes, and lights, and then pretend to be "worker men." By doing so, they will be making the book their own, retelling parts of the book in their own language. In the course of their pretend play, they will engage in "decontextualized language;' that is, specialized uses of language that arise in response to the need to communicate apart from the actual context in which it was crafted (Snow, Tabors, Nicholson, & Kurland, 1995)-a predictor of academic success.

This chapter has defined the following as critical steps in assisted instruction: (a) get set, (b) give meaning, (c) build bridges, and (d) step back (Neuman, *1995). Get set* focuses on the importance of attention getting and recruiting children's interest by asking predictive questions as well as structuring the physical setting (e.g., sitting in comfortable chairs or the floor in a way that allows children to point to the pictures) so the children can effectively participate. *Give meaning* helps children understand the story by focusing on the illustrations, describing new words, adding affect to voice (Umeeeow") to make the words or pictures more understandable to them, and talking about and elaborating on the actions in a story. *Build bridges* highlights the importance of extending children's understanding by linking what is read to something that is either within or beyond their own experiences. Caregivers might build connections between what is going on now in the classroom and other experiences either past or present to move the story experience beyond the pages. And finally, *step back* encourages caregivers to give children increasing responsibility, letting

children take a turn and ask questions, and providing them with elaborated feedback to encourage their strategic thinking.

Essentially, these steps remind all caregivers that high-quality reading to children is sensitive to development. Interaction plays an important role in helping children develop higher order thinking. Edward and Kalief's conversational turns, for example, would not have been as rich if Ms. Kimberly had simply placed the book in the play centers without first reading and discussing it. It was her sensitivity to careful book selection and interaction that supported the children's language and thinking.

The Importance of the Library

Informal libraries at homes or in child-care settings complement and extend children's learning from books (Neuman, 1999), but they need not be large or fancy. Rather, a library needs to feel cozy and inviting to children. A library should include attractive books that are not tattered and worn. Familiar titles and other books that have been recently read by a caregiver will draw children's attention. Multiple copies of these favorite books will encourage children to read to one another. The following list outlines critical features of design for infant-toddler reading centers:

when observing this kind of behavior, the thoughtful caregiver might wisely ask a key question, "Would you like me to read the words to you?"

Conclusions

Early literacy development does not merely happen. Rather, it is a social process that is nurtured through meaningful relationships with parents, caregivers, friends, and siblings. These caregivers play critical roles in children's motivation and knowledge about literacy by serving as models, providing necessary resources, and conveying their hopes and expectations to children. It is these interactions that shape what and how children come to see literacy in their daily lives.

References

Adams, M. (1990). *Beginning to read.* Cambridge, MA: MIT Press.

Bowman, 8. Donovan, M. S., & Burns, M. S. (Eds.). (2001). *Eager to learn: Educating our preschoolers.* Washington, D.C: National Academy Press.

Clay, M. (1975). *What did I write?* London: Heinemann.

Clay, M. (1991). *Becoming literate.* Portsmouth, NH: Heinemann.

Diaz, R., Neal, C, & Vachio, A. (1991). Maternal teaching in the rone of proximal development: A comparison oflow- and high-risk dyads. *Merrill-Palmer Quarterly, 37,* 83-108.

Dyson, A. H. (1988). Appreciate the drawings and dictating of young children. *Young Children,* 43,25-32.

Friedberg, J. (1995). *Super story times: A guide for caregivers.* Pittsburgh, PA: Beginning With Books.

Gibson, E. (1979). *The ecological approach to visual perception.* Boston, MA: Houghton Mifflin.

Hogan, T. (2003a). *Black on white.* New York: Greenwillow Books.

Hogan, T. (2003b). *White on black.* New York: Greenwillow Books.

IRA (International Reading Association), & NAEYC (National Association for the Education of Young Children). (1998). *Learning to read and write: Developmentally appropriate practices for young children.* A joint position statement of the IRA and NAEYC Newark, DE: IRA; and Washington, DC: NAEYC

Lidz, C (1991). *Practitioner's guide to dynamic assessment.* New York: Guilford. McGillicuddy-De Lisi, A., Sigel, I., & Johnson, J. (1979). The famiJy as a system of mutual influences: Parental beliefs, distancing behaviors, and children's representational thinking. In M. Lewis & L. A. Rosenblum (Eds.), *The*

child and its family (pp. 91-106). New York: Plenum.

Mclane, J. 8., & McNamee, J. (1990). *Early literacy.* Cambridge, MA: Harvard University Press.

National Research Council & Institute of Medicine. (2000). *From neurons to neighborhoods.* J. P. Shonkoff & D. Phillips (Eds.). Committee on Integrating the Science of Early Childhood Development. Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.

Neuman, S. 8. (1995). Enhancing adolescent mothers' guided participation in literacy. In L. M. Morrow (Ed.), *Family literacy* (pp. 104-114). Newark, DE: International Reading Association.

Neuman, S. B. (1999). Books make a difference: A study of access to literacy. *Reading Research Quarterly,* 34, 286-312.

Neuman, S. B., Copple, C, & Bredekamp, S. (2000). *Learning to read and write: Developmentally appropriate practice.* Washington, DC: National Association for the Education of Young Children.

Neuman, S. 8., & Roskos, K. (1992). Literacy objects as cultural tools: Effects of literacy related activity in play. *Reading Research Quarterly,* 27, 202-225.

Read, C (1971). Preschool children's knowledge of English phonology. *Harvard Educational Review,* 41, 1-34.

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in sodal context.* New York: Oxford University Press.

Rogoff, B., Mosier, c., Mistry, J., & Goncu, A. (1993). Toddlers' guided participation with their caregivers in cultural activity. In E. Forman, N. Minick, & A. Stone (Eds.), *Contexts for learning: Sociocultural dynamics in children's development* (pp. 230-253). New York: Oxford University Press.

Schickedanz, ,. (1998). What is developmentally appropriate practice in early literacy?: Considering the alphabet. In S. B. Neuman & K. Roskos, *Children achieving* (pp. 20-37). Newark, DE: International Reading Association.

Senechal, M., leFevre, J., Thomas, E., & Daley, K (1998). Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly,* 33, 96-116.

Seuss, D. (1972.) *Marvin K. Mooney, will you please go now!* New York: Random House. Sigel, l. E., & McGillicuddy-De Lisi, A. (1984). Parents as teachers of their children: A distancing behavior model. In A. Pellegrini & T. Yawkey (Eds.), The *development of oral and written language in sodal contexts* (pp. 71-92). Norwood, NJ: Ablex.

Snow, C, Burns, M. S., & Griffin, P. (Eds.). National Research Council, Committee on the Prevention of Reading Difficulties. (1998). *Preventing reading difficulties in young children.* Washington, DC: National Academy Press.

Snow, C, Tabors, P., Nicholson, P., & Kurland, B. (1995). SHELL: Oral language and early literacy skills in kindergarten and first-grade children. *Journal of Research in Childhood Education, 10,37-48.*

Tharp, R., & Gallimore, R. (1988). *Rousing minds to life.* Cambridge: Cambridge University Press.

Whitehurst, G. ,., Falco, F. L., Lonigan, C. ,., Fischel, J. E., DeBaryshe, B. D., Valdez Menchaca, M. C, et al. (1988). Accelerating language development through picture book reading. *Developmental Psychology,* 24, 552-559.