CHAPTER THREE

SKILL THREE: COMMUNICATING

Think of a newborn, unable to understand or use a single word. In just a few short years, that same child could know thousands of words and use them to retell an experience, express an opinion, negotiate with you, or crack a joke. That very same child could grow up to use words to plumb the mysteries of the world, discover something new, write epics, and inspire others to hope and dream. Our words have enormous power: to wage war or bring about peace; to change an individual—or an era—for better or for worse. Yet we enter life knowing none, understanding none.

The quest to understand the remarkable process of human growth has inspired many of the researchers in this book. MIT neuroscientist Rebecca Saxe says that even as a child she was awestruck by the question: how do you start with a molecule and end up with a person?

Roberta Golinkoff, a developmental psychologist at the University of Delaware, describes the same wonder in her quest to know how we learn language:

> *I wanted to understand how kids become the adults that they do. When a child is born, they're saying nothing. By the end of the first year of life, you're lucky if they say "da da." Then by the end of the second year of life, many of them are speaking in sentences. How did that happen?*

Tracing the course of how that happens—how children learn to communicate—is a journey into the mind at work, says Kathy Hirsh-Pasek of Temple University.

AN EXERCISE: CRACKING THE CODE

Can you read and understand the following?

Obitsobeemsmobagobicobiknobow

What technique did you use to figure this out? Did you try to sound it out? Did you look for patterns in the letters? Were you able to figure out what I'm saying? If not, I'll tell you later in the chapter.

AN EXERCISE: SAILING IN A SEA OF SOUND

Remember the last time you were surrounded by a language you didn't understand. How did you begin to make sense of what was being said?

A PARENT'S PERSPECTIVE: THE WHITE AND BLACK CHANGED PLACES

I started studying Spanish when I was forty-three. I was motivated to communicate in order to visit our exchange student's family in Venezuela. I enrolled in classes at our local university, began reading in Spanish, sought out Spanish people to talk to, and listened to tapes from Radio Nacional de España over and over. One moment stands out as evidence of my progress.

It was in the summer after I had begun taking classes. I was sitting on our porch listening to a Radio Nacional tape. Suddenly I realized that instead of listening hard for words that I *could* understand, the words that leaped out at me were those that I *couldn't* understand. It was like going from looking at a photographic negative to looking at a positive. The white and black had suddenly changed places.

When Philip and Lara were young, we spent several summers on the Greek island of Kos. We stayed with German friends, living high in the rugged mountains in Asfendiou, a community of five villages. The history of this island is a checkerboard of foreign occupations—Turkey occupied Kos for almost four hundred years, followed by Italy, then Germany. During the occupations, the Greek people sought refuge in the mountains. When

the occupations ended in 1948 and Kos was reunited with Greece, many abandoned their mountain homes, some even leaving plates in their cupboards and baskets in their windows, and returned to the seaside. The families now living in these semiabandoned villages are a collection of nationalities, with no Americans and just a few English speakers. I was surrounded by multiple languages, so my mind turned into a running tape recorder, practicing the simplest of phrases again and again—"good morning" in Greek (*Kalimera*), "good morning" in German (*Guten Morgen*)—trying to remember new sounds and translate them into words I could understand.

Animals can communicate. My fish used to thrash around their aquarium if it was feeding time and one of us came nearby. And my dog Lola is a great communicator. If she wants a dog biscuit, she goes over to the cabinet where the box is kept and stares at me until she captures my gaze. She then turns and looks upward, directing my attention to the cabinet door. If I don't look at the cabinet, she stares back at me and then at the cabinet again, literally pointing with her nose. Finally, bingo—she gets her biscuit! She understands a number of words, like *ball, bone, biscuit,* and *bye-bye*. She even seems to understand sentences. If I say, "Norman is coming" (versus just "Norman"), she runs to the window, barking, puts her paws on the sill, and looks out at the driveway. If Norman is already at home, she goes to look for him elsewhere rather than running to the window. I have even experimented with her comprehension of words. If I am holding an adult conversation near her, her ears are typically motionless, but if I quietly and without emphasis insert her name into a sentence, her ears begin to wiggle up and down, back and forth, even though she remains resting on the floor.

As truly fantastic as I know she is (and she is!), Lola obviously can't use words to express herself. Communicating using complex language is uniquely human. And while language is among our greatest capacities, it's also a weakness for many. In a survey my organization conducted with employers, here is one of the questions we asked:

> *There is a debate about whether there is a gap between the competencies that employees should learn in school to succeed at work and the competencies they actually do have. Please tell me the most important general skills and competencies you look for in new hires that often fall below your expectations.*

We found remarkable uniformity in employers' top two concerns—"spoken communication skills" (29 percent) and "written communication skills" (28 percent). Every other skill was mentioned by only a handful of employers.

So what happens between the time that children are born and the time when many enter the workforce apparently lacking these skills? First, children need to acquire the tools of

language—the ability to comprehend, speak, and read words—but then they need to learn to use those tools with power and precision—i.e., to communicate. That is the story of this chapter.

CHILDREN ARE BORN PRIMED TO COMMUNICATE

Charles Nelson, now of Harvard Medical School, has used a brain-imaging technique to find that infants as young as one or two days old already "recognize" their mothers' voices. Small sensors are placed on the babies' heads to record and measure the electrical activity in the brain, which is recorded on a computer. Then a little earphone is placed in the baby's ear and the baby hears a continuous tape recording of the mother's voice alternating with a stranger's voice saying "Hi baby, hi baby, hi baby." The computer screen displays separate readings of the baby's brain activity in response to each voice. Nelson describes the experiment:

> *The only way [this baby] would recognize its mother's voice—because this particular baby was born just in the last day or so—would be having learned about its mother's voice when it was a fetus.*

Deep within the brain, in an area called the *hippocampus,* memories of the mother's voice have been stored before birth. Since the hippocampus is connected to the emotional part of the brain, the *limbic system,* these earliest memories clearly have emotional connections.

Patricia Kuhl, a scientist at the University of Washington and the first recipient of the Bezos Family Foundation Endowed Chair for Early Childhood Learning, notes that in the last ten weeks or so of pregnancy, the child's auditory system becomes ready to receive and remember sounds:

> *What can they hear in the womb? It has the sounds of the [mother's] heartbeat, of bodily workings—a very noisy environment. And the baby is getting bone-conducted sound. So the mother's voice resonates in the bone structure of her body. Infants prefer their mother's voice at birth due to their experience in the womb.*

Kuhl likens this sound to listening to someone talk through the cheap walls of a motel room:

It's kind of muffled; you can hear that someone's talking, but you cannot tell what words or sounds are being produced—a kind of "waawaa-waa-waa" sound pattern. Dad's voice doesn't make it through [this sound barrier], because it's not loud enough. Eighty decibels is beyond a shout, and that's what it appears to take to get through the [surrounding] tissue and overcome the noise in the womb. It takes about two weeks after birth for babies to prefer Dad's voice.

Not only is the mother's voice preferred, but so is her native language:

If she spoke French while she was pregnant, babies will prefer French over Russian or English or other languages.

What if the home is bilingual? One pioneer in early language research, Janet Werker of the University of British Columbia, lives and works in the multilingual community of Vancouver, Canada. She has found that while monolingual babies prefer their native language at birth, infants exposed to two languages in utero prefer both of those languages at birth.

Newborns' auditory systems are better developed than their sight systems, so the importance of language and voices to children's development is evident from the start. But are infants especially attuned to voices? Janet Werker and Athena Vouloumanos of New York University conducted an ingenious experiment to find out. Werker explains:

We give [newborns] the opportunity to suck on a pacifier connected to a computer. Every time [they] deliver a strong suck, they get to hear either a speech sound or a nonspeech sound. So we have alternating minutes where they hear speech or nonspeech.

The nonspeech sounds are sound-wave analogues to speech—that is, the important information in the speech signal has been replaced by a simple tone, which Werker describes as sounding somewhat like a hypothetical chorus of Martians. They found that babies prefer to hear speech:

Athena and I found that babies sucked a lot more during those moments when they heard speech than they did [during] the moments when they had the opportunity to hear nonspeech.

PARENT-SPEAK?

Some breakthroughs occur because the right person is in the right place at the right time. That was certainly true for Anne Fernald and her groundbreaking insights on infant-adult communication. In college she had been interested not in the study of language per se, but in language as literature, as poetry. After completing college in the late 1960s, she moved to Germany with her husband for his work:

> *We went for one year and ended up staying eight years. When I went, I was an outsider to that language. By the end of that time—a quarter of my life—I was pretty good at German.*
>
> *I watched myself move into fluency. I paid attention to all the cues that I used in talking to people that told me what the meaning was before I knew the grammar, before I knew the vocabulary.*
>
> *Our children were born there. Becoming a parent in another language is a wonderful experience because it gave me distance [on the process].*
>
> *What drew me to the study of language was a moment of epiphany. One of my dear friends had a baby a few months before our second daughter was about to be born, and I was asked to be the godmother of this child. [I] went to the hospital on the second day and my friend put her newborn child into my hands to introduce us.*

To her own surprise, Fernald introduced herself to her godchild in singsong German:

> *I immediately thought: now where did THAT come from? I didn't hear people talking to me that way when I was a child, and I don't talk to my daughter in German. And this child doesn't know any language at all. Was this a performance for her German-speaking mother? Or was I just intuitively trying to engage with this newborn baby?*

Not only was Fernald acutely aware of her words, but she was also struck by the fact that she was *singing* them. When her own baby was born a few weeks later, she found herself singing the same kind of melody to her newborn—this time in English.

A PARENT'S PERSPECTIVE: BABA-WAWA TALK

When my children were babies, I called bottles "babas" and water "wawa." If I said "bottle" or "water," the names didn't register as quickly as if I said "baba" and "wawa."

Fernald's experiences in a new country led her into what has become a lifelong study of communication, beginning as a volunteer in a scientific center studying infant development in Germany and continuing to graduate school and then to Stanford University, where she is now a professor.

In her first days as a volunteer, Fernald accompanied a pediatrician to a hospital for a study he was conducting of how physically close mothers get to their newborns when they speak to them. There she saw families from Germany, Turkey, Yugoslavia, Sicily, and Greece:

> *What caught my ear was that they were all, in some sense, singing the same melodies in one language [or] another to a little two-day-old child who didn't know any language. [They were] using those melodies that I heard myself making to my little goddaughter.*

In her own first study, Fernald recorded German mothers talking to their newborns, analyzing the tones of their voices as one would analyze music. She found that the range of their voices stretched across two octaves.

Patricia Kuhl has conducted similar studies of the way adults talk with babies:

> *When we brought men and women into the laboratory with their children, we would engage them in a conversation in which they would be talking to us, and then they would naturally turn and talk to the baby. So we get this wonderful contrast between adult-directed speech and infant-directed speech.*

Although the scientific term is *infant-directed speech,* and I am calling it *parent-speak,* Kuhl calls this way of speaking *motherese, parentese,* or *caregiverese:*

[The voice] increased by an octave, it's much slower, and the sounds are like golden nuggets. They're very clearly articulated and stretched out in time, and their frequency differences are much bigger.

Fernald wondered if infants actually prefer infant-directed speech to adult-directed speech, and she developed one of the first auditory preference methods to address this question. The technique entails her recording mothers' adult-directed and infant-directed speech:

I had the moms speak to me and speak to their four-month-old. So the mom might say to me, "Well, I don't take [my children] out so much, because it's been raining a lot," but to her baby, she says, "Hey, sugar bear! Hey, sugar bear!" I selected little sections of that speech and put them on tape.

Then she "trained" other four-month-olds so that if they turned their heads one way, they heard infant-directed speech, but if they turned them the other way, they heard adult-directed speech. She alternated the sides, so the findings wouldn't reflect a preexisting preference for the right or left side:

We found babies would turn more in the direction [that would] turn on the infant-directed speech.

This finding led Fernald to the next logical question in cracking the communication code: was it the music of the voices that the babies preferred, or was it the actual words?

[In] the next experiment, [babies] heard the very same speech but filtered so the adult-directed sounded like "hmmmm, mmmmm," and the infant-directed sounded like "hmmmmm, mmmmm."

You'll have to use your imagination to translate these *hmmmmm*'s into singsong infant-directed and regular adult-directed sounds, removing the words and just using pitch. If you can, try it with a baby. Fernald found:

Sure enough, [the] four-month-olds showed an even stronger preference for the pitch contours of the infant-directed speech.

PARENT-LOOK: OOCHIE, WOW, AND JOY

In studying how adults talk with babies, Janet Werker noticed that adults don't exaggerate just their speech; they also exaggerate their facial expressions. She and her colleagues investigated how adults from two very different cultures—English-speaking and Chinese-speaking mothers—connect with their four- to seven-month-olds. They gave the mothers several topics to talk about with their babies (for example, bringing them home from the hospital, taking them to get their first shot)—topics purposely chosen to evoke a range of emotions—and filmed the mothers as they did so. They then had observers code the mothers' facial expressions according to standard facial-expression coding schemes. They found three typical faces that they called:

Oochie: an expression adults use to express concern, caring, comfort, and love. It involves pursed lips and is playful.

Wow: Werker says that this looks somewhat like an adult expression of surprise. The eyebrows are raised, the mouth is wide open, and there is an upturning in the lips that softens the edge of excitement, turning it into something that their coders consistently labeled as amazement, pride, and love.

Joy: Werker says that a content analysis of adult ratings of this expression indicates that it reflects an unmistakable look of joy and love.

Werker summarizes the meaning of this and other studies she has conducted:

Babies are prepared at birth to listen to language. Moreover, they've already learned something about the characteristics of their native language or languages and are prepared to listen accordingly.

While originally researchers thought that babies were born able to discriminate differences among the sounds in all the languages around the world (for example, the difference between the *d* sound in English and in Hindi), recent evidence indicates that "babies are probably not universal listeners at birth." Werker says:

They can discriminate many, perhaps most, of the sounds from the world's languages, but they can't discriminate all possible sounds. Experience seems to be required to allow that discrimination to emerge.

That's where immersion in language combined with facial expression, or what I call *parent-look*—precisely what Werker saw parents do—is crucial:

Over the next several months of life, [babies] listen to the sounds of language, they pay attention to the facial expressions that accompany those sounds, [and] they pay attention to the entire communicative context in which language is so richly expressed.

From birth on, babies are ready to listen and watch, and we as adults typically talk and look in ways that, in Werker's words, enable the infants to

pull out the properties—the consonants, vowels, and other properties of their native language[s]—that will eventually give them the categories they need to go on to learning words, syntax, [and] to learn to become both comprehenders and speakers.

WHY PARENT-SPEAK, PARENT-LOOK, AND PARENT-GESTURE MATTER IN THE FIRST TWO YEARS OF LIFE

Some people think babies aren't learning about talking until they start to babble or say

actual words, but that couldn't be further from the truth, as many parents realize.

A PARENT'S PERSPECTIVE: A POLITE BABY

I definitely believe that my children were learning the meaning of words before they could babble or say actual words. The fourth word that my son said was *thank you,* and he said it at the correct times. How else could that be explained?

Think of interactions during those first months and year as forming the foundation of children's skill in communicating. The way we talk, the expressions on our faces and in our eyes, what we look at, even our gestures are the basis upon which learning to communicate is built.

Of course, we can teach only what we ourselves have learned. So as we promote communication skills in our children, we have to develop them in ourselves. *We have to learn what we want to teach*...and it all begins with how we talk, how we look, and what gestures we use with our young children.

PARENT-SPEAK AND PARENT-LOOK CONVEY FEELINGS IN A MORE PRONOUNCED WAY

We communicate our feelings through our parent-speak, word-songs, and our parent-look *oochie, wow,* and *joy* faces to babies. Fernald says that, long before they can understand the verbal language of feelings, babies begin to put these cues and clues together to begin to differentiate among a range of emotions:

> *Babies begin to learn about emotional cues not yet carried by language, because at six to seven months they don't yet have the ability to learn those words and those meanings.*

I remember startling Philip when he was a few months old. Something surprised me, I yelled, and he got upset. I had no idea that my emotions were being transferred so easily.

Why does this matter? Because it indicates that children typically learn things we view as more cognitive or intellectual, like language, through the filter of feelings.

PARENT-SPEAK HELPS BABIES LEARN TO REGULATE THEMSELVES

We all know how soothing it can feel to be touched, and how parents provide soothing touches to children by rocking, cradling, and stroking them. But most of us don't think about the caressing power of our voice. Think of the tone of voice we use with babies as similar to touch—it regulates the baby as one of the first steps in the baby's learning self control, which is fundamental to learning to communicate.

Anne Fernald observed that parents also use their tone of voice to manage their infants' behavior, typically to praise or to prohibit. Curious to know if tone by itself was sufficient to regulate the child, she tape-recorded parents saying things that conveyed approval or prohibition in several different languages—French, German, Italian, Japanese, British English, and American English. She and her colleagues then tested five-month-old American babies with these "messages" in unfamiliar languages:

> *These little American babies would hear the praise and they would smile and relax; they would hear the prohibition and they would stiffen a little and their eyes would widen. These sounds—in a different language, from a total stranger—had predictable effects on babies' behavior.*

AN EXERCISE: THE MEDIUM IS THE MESSAGE

> *If you have a baby in your life, try this exercise: use just your tone of voice to convey meaning. For example, try speaking nonsense words in a stern voice, and then saying the same nonsense words in a pleasant, happy voice. How does your baby react?*

PARENT-SPEAK HELPS CHILDREN LEARN TO DETECT WORDS IN A SEA OF SOUNDS

Remember the made-up word I used at the beginning of this chapter: *Obitsobeemsmobagobicobiknobow*?

If you broke the code by sounding it out or by looking for patterns in the letters, you

discovered that it was not one word but a sentence. It comes from a language I learned as a child called "ob language." The rule for this language is to put an *ob* sound before every vowel sound. I am fluent in ob—I can sing, rattle off long sentences, and talk with my sister, who is also fluent. We used to speak ob at the dinner table to say things we didn't want our mother to understand. Little did we know that she soon broke the code and infiltrated our secret talk, but she waited until we were adults to tell us!

If you translate my ob sentence into English, it is: "It seems magic, I know." I wrote this sentence because the more I know about how children learn to communicate, the more magical it seems to me.

Part of breaking the code of a language is figuring out word boundaries: the sounds that mark the beginnings and endings of words. Jenny Saffran of the University of Wisconsin likes to use the example of "pretty baby" to explain how complex this is. When we speak, we don't typically pause before and after words to indicate where they begin or end, so "pretty baby" could be "pre ty ba by" or "pre tyba be," etc.

In fact, however, every language contains statistical regularities. There are not many words in English that begin with *pre*. So the statistical likelihood that *pre* will be followed by *ba,* as in *baby,* is low, whereas the likelihood that it will be followed by *ty,* as in *pretty,* is relatively high. Saffran wondered whether babies have an ability to learn language by detecting these statistical patterns. Answering this question would illuminate a debate about learning language—how much of this capacity in infants is innate versus learned. If children can detect patterns, then they can use this capacity to *learn* where words begin and end.

Saffran and her colleagues used the *familiarization procedure* I've described previously: when babies, like all of us, hear (or see) something again and again, they become tired of it and pay less attention each time it is repeated. They have *habituated,* to use the scientific term. If you present babies with new sounds—or something *babies hear as new*—they will listen longer. If they listen for a shorter time to the old sounds than the new ones, it suggests that they have become familiar with the old sounds.

In order to avoid presenting the babies with words they might have heard before, Saffran made up new words. These words are unintelligible: *pabiku golatu daropi tibudo*.

Saffran and her colleagues conducted a series of studies with eight-month-olds. In one study, the babies heard the made-up words *pabiku golatu daropi tibudo* repeatedly for two minutes (a flashing light also helped them pay attention).

Then the eight-month-olds were exposed to the same "words" they had heard before (*pabiku golatu daropi tibudo*) or new part-words, made by combining the final syllable of one word with the first two syllables of another word, such as *tudaro pigola*.

AN EXERCISE: FINDING THE PART-WORDS

Can you go back to the four words of Saffran's made-up language and find the new part-words? For some of us, it's not so easy, is it?

Presumably it isn't so easy for infants, either—perhaps many of the new words they hear seem as strange to them as these made-up words do to us. Yet the study showed that eight-month-olds listened longer to the part-words than to the whole words, indicating that they had become familiar with the sound patterns in the whole words. Jenny Saffran and her colleagues say that the infants' performance is all the more impressive because the made-up words contained no pauses, no cues other than the "sequential statistics inherent in the structure of words."

Saffran and her colleagues used a similar technique to present Italian words to English-learning eight-month-olds and came to the same conclusions. It's amazing to think that children just four months short of their first birthdays can detect statistical patterns to determine the sounds that go together and eventually the beginnings and endings of words in what Saffran has called a "sea of sounds."

She and a colleague also found that children were even more facile in detecting word boundaries in infant-directed speech. The way we typically talk to infants—speaking more slowly, enunciating words, pausing between sounds, and varying the pitch of our voice—makes learning language much easier.

PARENT-LOOK AND PARENT-GESTURE HELP CHILDREN DIRECT THEIR ATTENTION TO WHAT WE THINK IS IMPORTANT

Voice tone is only one of the tools we use to help infants shift their focus. Amanda Woodward has been a leader in uncovering how children learn to associate, or map, words with the things they represent (such as the word *dog* with the actual dog). It starts with the ability to direct attention and focus. She gives a grown-up-world example of how this works:

Imagine you're standing on a street corner and somebody is looking up high. You tend to shift your own eyes to see what that person is looking at. It's an automatic response. It's hard to stop yourself from doing it. In fact, people sometimes use that automatic response to play jokes on other people. If you're playing touch football, a good way to fake out your opponent is to look in one direction and throw the ball in the other direction. It works every time, even though everybody knows it's the oldest trick in the book.

AN EXERCISE: FAKING IT

Try this trick with your child. Pretend to throw a ball in one direction and then shift and throw it in another direction. What happens? How many times do you have to do this before your child "gets it"?

Woodward explains:

It turns out that babies, like adults, have the propensity to follow another person's eyes from pretty early in life.

Some studies have found this tendency emerging as early as three months. It's well developed by nine to twelve months.

Just as singsong parent-speak helps children begin to pick out what Patricia Kuhl calls the "golden nuggets of sound" that will someday have meaning, parent-look—shifting our focus to what we want children to look at—helps them learn words as well.

When babies follow our gaze, we are actually *telling* them with our eyes what we think is important. And as we saw in chapter 2, on perspective taking, from Woodward's finding that babies prefer to follow our *intentional* actions rather than the actions of a robot, babies appear to have what I call a *people sense,* meaning that they appear wired to focus on people's intentions far before anyone teaches them to pay attention to what others seem to intend. Babies use this focus on people's intentions as a guide to learning language. By nine months or so, babies begin to learn actual words, lots of them.

Woodward has explored how babies' focus on intention guides language learning. In one study, she used two different methods to introduce thirteen-month-olds to a word they'd never heard (a made-up word) and an object they'd never seen.

In one method, the baby (sitting on his or her parent's lap) is across a table from two experimenters. The first experimenter looks at the baby and then looks over at the new object, pointing to it. (This reminds me of the way my dog Lola looks at me and then at the cabinet, pointing with her nose when she wants a dog biscuit.) The second experimenter does the same, but just when the baby looks at the object, the second experimenter names it: "Look, Alice, it's the *gombie*."

In the second method, the procedure is the same except that the second experimenter

doesn't connect with the baby—she or he watches what is happening on a video monitor—but as before, just when the baby looks at the object, the second experimenter names the gombie. Both groups of children see the gombie being named nine times. They also see another object that isn't named.

Do babies learn the name of a new object simply by *association* (hearing a new object being named when they're looking at it)? Or are babies more likely to learn a new word if adults seem to have the intentional goal of teaching them the new word by naming the object while pointing and looking at it? To find out, a third experimenter comes into the room and puts the gombie and the other unnamed object on a tray and asks the baby to "get the gombie."

Infants who saw the experimenter name the gombie while looking and pointing to it are much more likely to get the gombie. But if the experimenter was looking at the video monitor while naming the toy, some of the babies actually go over to the video monitor to try to find the gombie!

These experiments reveal that we're helping children learn language not only with *parent-speak* and *parent-look,* but also with our hands, by gesturing or pointing to what we want children to focus on. I call this *parent-gesture*.

PARENT-GESTURE HELPS CHILDREN LEARN TO COMMUNICATE

Before I learned about this research, I never considered gesturing as a tool we use to help our children learn to communicate. Susan Goldin-Meadow of the University of Chicago has studied gesturing (including with deaf children in hearing families) and finds that the gestures are signals to children, telling them what parents think is important.

One of the most familiar gestures is pointing. Children themselves begin to point around eight months or later. Kathy Hirsh-Pasek of Temple University fondly calls this "the royal point," because it is such an important milestone in the development of communication skills. Goldin-Meadow has found that pointing and other gestures are the first steps that all children take into language:

I like to say that children enter language hands first!

A PARENT'S PERSPECTIVE: A LANGUAGE ALL HER OWN

My toddler had a lot to say before she could say it. When she was eighteen months old, she created some gestures to let us know what she wanted. She tilted her hand a certain way near her mouth to tell us she wanted her bottle. She rested her head on her two hands as though they were her pillow in order to tell us she was tired. And she loved to play in water. She showed us she wanted water-play by tapping the index finger of one hand into the palm of the other—mimicking the motion of water from the tap spilling into her hands.

Goldin-Meadow finds that children use gestures *before* their first words. They will point to their bottle before they say "ba-ba." My son, Philip, used to thump his hand back and forth against his mouth to tell us he was hungry, before he said the word "hun-greee."

Parents tend to translate children's gestures into sentences, giving children words to begin to express themselves. In studying fifty-three children over time, Goldin-Meadow and her colleagues have found that children who used more gestures to express themselves at fourteen months were more likely to have larger vocabularies at forty-two months. In a subsequent study of fifty children from fourteen months to fifty-four months, they found that children with larger vocabularies when they were older were more likely to have used gestures when they were younger. More important, the children more likely to gesture have parents who are more likely to gesture. Because of the design of these studies, one can't conclude that parent-gesture *causes* better language skills (because these parents might be doing other things that affect their children's language development in addition to gesturing). Goldin-Meadow and her colleagues are now conducting an experimental study, but given the evidence thus far, she concludes:

Mothers, [fathers, and other caregivers] who are attentive to their children's gestures have children who pick up words a little faster.

PARENT-SPEAK HELPS CHILDREN LEARN TO RECOGNIZE AND SAY WORDS

Roberta Golinkoff calls the first words that babies recognize "anchors," as they allow babies to recognize new words that come after them. In fact, her research shows that even as early

as six months of age, babies can recognize a new word that comes after their own name but not when it comes after someone else's name. It's not that they know the *meaning* of the word, but familiar, frequently heard words like their own name and "Mommy" serve as a wedge or anchor into the speech stream. This happens perhaps earlier than one might think. Kathy Hirsh-Pasek says:

> *We [have] learned that babies pay attention to their own names by four and a half months of age. Babies know "Mommy" and "Daddy" by six months.*

At around seven months or so, they begin to babble. And when they begin to look and point as well as babble and point, Hirsh-Pasek says, they can communicate what they want.

She and Golinkoff tell a story in their book, *How Babies Talk,* about Golinkoff's son, Jordan, clearly wanting something when he was fourteen months old. He was pointing at the counter, and Golinkoff tried to decipher what he wanted by naming everything in sight—the jelly, a spoon, the cheese. Jordan shook his head vigorously at each suggestion. Finally she said "sponge." He leaned back in his high chair, finally relaxing because his mom had figured out what he wanted.

Often the first words, when babies are somewhere around a year old, are "Mama" or "Dada." It is a magical milestone.

A PARENT'S PERSPECTIVE: NOT THE FIRST WORD I HOPED TO HEAR

My son lives in a bilingual home. His father is Spanish and I am Finnish. I always thought that his first word was *Äiti,* or more like "*Äihtiiih,*" when he was a tiny, tiny baby. *Äiti* is "Mom" in Finnish, and I desperately wanted to hear that. After all, it was a word I use tons of times each day! Well, I wasn't so lucky. At close to sixteen months, as I was changing his diaper one day, I think I heard the first clear and deliberate word: "*Papa*." It took me a split second to realize that this was an actual word! His first word was naming his father, not me.

A PARENT'S PERSPECTIVE: UPS MAN, NOT DADDY

My son was just learning to talk and knew three words—*cat, light,* and *Daddy*. One lovely Saturday afternoon, we were walking in our neighborhood and I was carrying him in his sling, chatting with some neighbors. My son saw our friendly (and cute) UPS man delivering packages and loudly shouted out, "Daaaddddyyyy!" much to my embarrassment and my neighbors' amusement. My husband, who was feeling a little neglected around then, didn't find it so hilarious. But I explained to him that if you know only three words, *Daddy* is closer to *UPS Man* than *cat* or *light,* and to give us a break. We still laugh about it whenever we see the UPS truck.

By eighteen months, most young children have a number of words and can string them together to create the beginnings of sentences. I remember one of Philip's first communications to us. I tend to use nicknames for the people in my family. One of Philip's early nicknames was Flipper, bestowed because of the way he propelled himself around his crib. One day he said to me, "No Flipper." I looked at him, astonished, and he repeated it again with more emphasis: "No Flipper." And then he said, "No Flipper! Ippy." So we called Philip "Ippy." As he grew up, Ippy underwent many transformations (you can imagine all the names I can create out of Ippy). In high school, we called him Mr. Ip. He "permitted" his family to use this special name for him when he became an adult, though Mr. Ip was replaced by Dr. Ip when he got his PhD.

Obviously, their own names are particularly important to young children and they're more likely to learn new words that follow their names.

They're also more likely to learn words at the end rather than in the middle of sentences. Anne Fernald describes her study of this:

> *The way [we conduct naming experiments is] to show the child two pictures, [for example, of] a baby and a doggie. You ask, "Where's the baby?" Or "Where's the doggie?" However, if [you] change the sentence a little bit and you say, "There's a ball over there," and put [the word "ball"] in the middle instead of at the end [of the sentence], they fall apart completely. They can't get it.*

Fernald has found that by around eighteen months, children are more able to pick out words in the middle of the sentence. In addition, infant-directed speech becomes less important to their learning new words.

At that age, studies show that children's vocabularies seem to take off—young children

are learning many new words per day. Fernald elaborates:

> *[Babies at] twelve, fifteen months may learn one word a week—very slowly building vocabulary. Then around eighteen months they pick up the pace and parents will notice, "He learned three new words today," or "He learned five new words or ten new words this week." [It's called] a vocabulary explosion because it's a change in rate of language learning.*

A PARENT'S PERSPECTIVE: PICTURES WORTH A THOUSAND WORDS

I wanted to capture the way my daughter was learning language, so I got out my video camera. On the morning of the shoot, I dressed Carrie in a pretty pink outfit that would look good on camera, found a slimming outfit for myself, and yelled, "Action." I don't think I'm being too much of a stage mother when I say that Carrie "performed" beautifully. Right on cue, she threw out lots and lots of nouns, naming all her favorite objects around the house (shoe, ball, apple, juice). And, as evidence that she was starting to expand her words beyond nouns, she threw in a "bye-bye" and "hot."

Soon after the cameras were turned off, a spurt obviously began! Before I knew it, Carrie was trying on new words for size at an amazing pace. And I did my part, talking with her as much and as often as I could. Unfortunately, I got busy and didn't tape her again until she was twenty-four months. And at that point, what came out was far more sophisticated—sentences like "I finished yogurt now." Looking at these two videos, I felt like I had a ringside seat for something that otherwise might have been hidden.

PROCESSING LANGUAGE IN THE TODDLER YEARS AND BEYOND

Computer scientists trying to create voice recognition computers have struggled to create a machine that can recognize all the variations in voices—loud, soft, gruff, silky, southern, midwestern, and so on—something children are able to do by their second year. In her most recent research, Fernald has examined how efficiently children process new words:

The baby is sitting on Mom's lap in a little booth and there are two pictures on two monitors that the child is looking at, to the left and to the right.

Let's say that on the left monitor is a picture of a dog and on the right monitor is a picture of a baby, though the positions of these pictures are changed throughout the experiment. When the child hears, "Where's the baby?" the researchers look at how the child processes this information and when the child begins to shift attention to look at the picture that has just been named. Does the child begin to shift his or her focus upon hearing the first syllable "bay," or does the child wait until the whole word, "baby," is said? Fernald says:

At eighteen months, the shift is quicker [than when they were younger]. By twenty-four months, just nine months later, all they need to hear [is] "Where's the bay—" and they're out of there. So at that point they can already place their bets based on hearing half the word.

Fernald calls this *efficiency of processing* or *fluency of processing*. She explains why they are so important—if a child doesn't need to wait until the end of a word to "grab it," he or she is ready for the word that comes along next:

When you're a very young language learner, what comes next is likely to be new, so the [more efficiently] you can process familiar words, the [better able you are] to attend to the new information that comes along and potentially make use of it.

They have found this to be the case. Children who processed language more quickly when they were younger had greater vocabulary growth in their second year.

How parents talk with children matters as well. In a longitudinal study of Spanish-speaking children, Fernald and her colleagues found that the children of mothers who spoke more, used different words for the same object, used different types of words, and spoke in longer phrases to their children at eighteen months, not only had larger vocabularies but were faster at processing words at twenty-four months. As Fernald puts it, these "little differences can add up to a big effect":

For the young child, there are always new things to be learned in almost every sentence they hear. So that advantage, small as it is, can add up to a big advantage later on,

because the capacity for learning is then increased.

ANNE FERNALD'S PERSPECTIVE: WHAT ARE THEY SAYING ABOUT EGGPLANTS?

I had an experience in Japan a few years back when I attempted to learn Japanese that reminded me [of the importance of grabbing words as they fly by in everyday language]. I was laboriously learning these Japanese words. I learned the [word that] means "eggplant," and somebody spoke it in a sentence. I was so grateful to them for speaking a word that I actually understood [that] I stopped and said, "I know that word!" I proudly beamed with the satisfaction of knowing the word, [but then] the rest of the sentence had gone on without me. The verb was lost on me. I had no idea what to do with that eggplant!

LANGUAGE AND LITERACY

Catherine Snow, a professor at Harvard Graduate School of Education and a renowned expert on language development, began her studies when very little was known about how children learn language—it was truly a new frontier. She says:

> *I could review the literature on language development in a weekend, because there was so little of it in 1967. Now, of course, it's become an enormous field, which has produced thousands of books and dozens of journals. It's a very exciting and vibrant field—but at the time when I started, there were just a couple of studies that had been published.*

Among the debates in the field, as mentioned, was the question of how much language is innate versus learned. Snow and her colleagues David Dickinson and Patton Tabors began what has become a landmark study: The Home-School Study of Language and Literacy Development. The idea was to look for a group of families where the children would be at

risk for not developing strong literacy skills and determine over time which experiences the families and schools provided that made the biggest difference in children's development in language, literacy, and reading:

> *We started with a group of eighty or so low-income families with three-year-old children. We visited the families at home and [at school] every year when the children were three, four, and five. And [we've] tested the children every year starting when they were five on language and literacy skills.*

Among the techniques they used were taping family dinnertime conversations, story times, and playtimes, as well as interviewing parents. I love the idea of taping dinnertime conversations and wonder what ours would have sounded like when our kids were little. Dinnertime was such an important time for all of us to be together.

AN EXERCISE: WHAT DO YOUR DINNERTIME CONVERSATIONS SOUND LIKE?

Listen to your mealtime conversations as if you are a researcher. What did you learn?

One parent tried this and found that she was not having a conversation, but listening to soliloquies from her oldest and youngest child, while her middle child remained quiet. So she began to work on weaving the one-way comments into a conversation and including this middle child.

Over the years, three findings from the Snow, Dickinson, and Tabors study have been most predictive of children's language and literacy skills:

While reading books or talking at the dinner table, parents talk about issues that go beyond the here and now. Snow says that this talk involved telling stories or getting the child to respond to questions like "What do you think is going to happen next?" Or "Why do you think that happened?" They used what Snow calls "extended discourse":

> *Extended discourse means talk about topics that goes on longer than just a sentence or two. So, for example, when these more successful families read books, they didn't just read the book and then ask questions like "What's that?" or "What color is it?" They asked questions like "Why do you think [the character in the story] did that?" [They asked]*

questions that involved the children in analysis, in an evaluation of the book, but also questions that gave them a chance to talk through their understanding of the story.

They also often encouraged children to tell stories about their own lives that mirrored the stories in the book: "The little bear was scared. Do you remember when you were scared?"

Parents use a sophisticated vocabulary. Snow says:

In these dinner table conversations, of course, there's always a lot of talk about "Eat your peas" and "Keep your elbows off the table" and "Pass the noodles," but in some of the families, in addition, there's wonderfully interesting conversation about what proposals the governor just suggested for the new budget, or how the construction of the expressway is going to influence the neighborhood. And these conversations are full of wonderful words like budget *and* governor *and* proposal *and* neighborhood*—words that children might not use [and] probably don't understand fully. We found that families that used words like that in their dinner table conversations had children with much larger vocabularies two years later.*

So part of vocabulary acquisition is learning the words that are going to be important in school, the words that second-grade teachers think when a child uses them, "Oh, wow, that was a good word; that's a smart kid." Those words are signals about the sophistication of the child's thinking. And of course they are also tools for thinking.

The difference between knowing three thousand words and knowing fifteen thousand words when you arrive at kindergarten is enormous. The child who knows three thousand words knows words like shoes *and* milk *and* jump. *The child who knows fifteen thousand words knows words like* choice *[and]* possibility*—words that index a more complex array of possibilities for dealing with the world.*

Parent-talk does not mean baby talk, talking down to preschool-aged children, or a constant flood of words. Using meaningful, grown-up words with children as they enter the toddler and preschool years helps them learn and appreciate new words.

There is support for children's literacy. Snow says:

These were [families] that had bought children books; that ensured that children [were] read to regularly by parents and by other adults; that had pencils, paper, and crayons around and encouraged children to write. [These were] homes in which the parents

themselves also engaged in regular reading, got a daily newspaper, or read magazines or books regularly.

A PARENT'S PERSPECTIVE: EVERYDAY TRADITIONS

I started reading to Jimmy when he was about six weeks old. When he was around four months old, we established a bedtime routine that included reading two books aloud. I would tell him that it was "time for books, nursing, night-night." When he stopped nursing and the routine evolved, it was, "Time for bath, books, night-night." Eventually we'd make jokes like, "Time for bath, going to the zoo, night-night"—he thought this was hilarious.

Reading was one of our first rituals together. Now we also have a ritual called "family sing." A couple of times a week, we go into the living room after dinner, play songs on the guitar, and sing. Jimmy plays his own little guitar or drums, or he just sings. "Family sing" has been a nice time to just be together for the purpose of having fun, rather than trying to accomplish anything like eating a meal or getting out the door to preschool, etc. It's been a good opportunity to talk about taking turns, too. Initially, we let Jimmy choose all the songs, but then we decided that we wanted choices, too.

A PARENT'S PERSPECTIVE: SPECIAL TRADITIONS

A close family friend gave us a copy of *The Polar Express* at my baby shower. I read it to my daughter on Christmas, and signed my name and the date to the inside cover of the book. I plan to have a different family member read it to her each year and sign their name until she is old enough to read it out loud to us. Then she can sign her own name and the date. I hope that this will become a family tradition she remembers her whole life.

Preschool also makes a difference. The Home-School Study of Language and Literacy Development found that three quite equivalent factors predicted children's literacy skills. Catherine Snow summarizes the findings:

1. Teachers use "cognitively engaging talk":

This is very much like the kind of talk that we saw in homes around books—asking the children to consider hypothetical situations or to make future plans; asking children to talk about their own lives and how these relate to the stories in the books.

2. Teachers use more complex, sophisticated words when talking to children.

3. Teachers have a content-oriented curricular plan:

These were preschools in which the teachers engaged the children in learning about letters and sounds, about the world, and about how to analyze and think.

HEAD-TO-TOES TASK—AND LITERACY?

A group of researchers headed by Megan McClelland of Oregon State University found that kindergartners with poor skills in *focused attention and self control*—among other

learning-related skills—also had poorer skills in literacy and math. Even more disturbing, the gap widened by the second grade and stayed wide when the children reached the sixth grade.

Since this study relied on teachers' views of children's skills over time, McClelland wanted to do a study of children's focused attention and self control that didn't depend on the perceptions of teachers. She and her colleagues gave more than three hundred children the Head-to-Toes Task in the fall of their preschool year. In this five-minute assessment, children are asked to do the opposite of what the experimenter tells them to do. If the experimenter says, "Touch your toes," the children are to touch their heads; if told to touch their heads, the children are to touch their toes. This very simple task, repeated ten times, assesses the skills we explored in chapter 1, on focus and self control—*focused attention, working memory,* and *inhibitory control*. The children have to pay attention to the directions, remember the rules, and inhibit the tendency to go on automatic and follow the directions of the experimenter.

The results are striking. For one thing, the researchers found that having good focus and self control skills predicted the children's literacy, vocabulary, and math skills in the spring of their preschool year. They also found that those children who improved their focus and self control skills made the greatest gains. In fact, their improvement in the skills of focus and self control was equivalent to having an extra month of prekindergarten in terms of their gains in literacy and math skills, and an extra 2.8 months in vocabulary skills.

The researchers also followed children's performance on the Head-to-Toes Task in kindergarten and found that children with strong self control and attention skills in the fall of kindergarten had higher reading, vocabulary, and math scores in the spring. For example, children who scored high on this task in the fall had spring math scores that were the equivalent of almost 3.5 additional months of math learning, 1.7 additional months of literacy learning, and 1.9 additional months of vocabulary learning. In addition, children with stronger self regulation in the fall demonstrated greater *gains* in mathematics over the school year. Focus and self control underlies other skills that are so essential to children's learning.

WAYS TO ENCOURAGE LITERACY SKILLS IN THE EARLY SCHOOL YEARS

In addition to focus and self control, reviews of the literature on what children need in order to develop good literacy skills and become successful readers include the following:

It's about expression. Catherine Snow says it's important to remember that a central purpose of literacy is to *communicate*. That means not losing sight of the forest for the

trees and putting excessive emphasis on mechanics such as sounding out letters or learning the alphabet at the expense of focusing on children expressing themselves.

It's about understanding, not drills. Snow also says that a central purpose of literary skills is for children to *understand* what is communicated verbally or in writing. Again, the danger is "drill and practice" that neglects children's comprehension or dampens their understanding and enjoyment of what they're reading.

Surround the process with enjoyment. In fact, Hirsh-Pasek, Golinkoff, and others have written a book summarizing the research on learning and have issued a mandate for embedding the teaching of skills and content in *playful* ways: "learning takes place best when young children are engaged and enjoying themselves."

Connect the visual with the verbal. Judy DeLoache of the University of Virginia and her colleagues note the importance of helping children *understand symbolic relationships* of all kinds—that pictures stand for objects and that the squiggles on a page stand for written words.

Give children a concept of printed words. Dorothy Strickland of Rutgers University and a lead member of a panel reviewing the research on how literacy emerges, for the National Institute for Literacy, points to helping children acquire a *concept of print*—that pages are read from left to right, that there is a beginning and an end of books, a top and a bottom of pages, and a space around each written word.

Talk, listen, discuss, and imagine. Snow writes about providing children with *meaningful experiences with books* by reading aloud and then talking about books so that children can think about, relate to, and interpret what they've read. Strickland notes that children also need experiences in *listening attentively*.

Encourage children to talk about their ideas. Snow goes on to say that while having a strong vocabulary is crucial, children also need to share their ideas by *talking to others*.

Make it fun to crack the code. Learning to recognize letters and their sounds is very important, too. Adults can help children with this knowledge (called *phonemic awareness*) in everyday, fun, and meaningful activities, such as having all the children whose names begin with a "ba" or a "ka" stand together.

Promote expression in all its forms. Snow calls for encouraging children to use many *different forms for self expression,* such as drawing and painting.

LEARNING TO READ

The neuroscientist Stanislas Dehaene has been studying how the brain processes reading. He notes that while children are born with intuitive ways of understanding certain kinds of information, such as shapes and numbers, brains are not prewired to read:

Reading is a completely novel cultural invention. It's very recent—maybe five thousand years old at most—and until a few centuries ago, very few people on earth were reading. So there cannot have been any specific evolution in the brain for reading. It has to be tinkered out of existing brain material. Yet what we can show is we've "recycled" an existing brain circuit, so that with minimal learning changes, [an individual] can become a good reader.

That system is in the ventral [lower] side of the brain and allows you to recognize objects regardless of their orientation in space, regardless of their location, regardless of their size, and other variations.

In Dehaene's book *Reading in the Brain,* he writes that the world's written languages are all based on the same patterns of lines and angles. This is fascinating because, on the surface, it seems so implausible—for instance, English and Chinese seem to have letters that are very different. Dehaene says:

> *[It is a] fascinating recent discovery that we seem not only to be using the same brain area for all of the world's languages, but [there are] also very consistent cross-cultural regularities in the very shapes [of letters] that are being used in different languages. Mark Changizi has counted how many times you find intersections like* Ts *and* Ls *and* Xs *and* Ys *in different writing systems including Chinese, Hebrew, and so forth, and has found an amazing regularity in the statistics of how many intersections are present in the world's languages.*
>
> *But even more interesting is that these statistics match those of the outside world. So if you take a natural scene [such as a landscape] and you just count how many* Ts *and* Ls *are present, you find the same statistics as in scripts. So what must have been happening is that our visual system developed a sort of alphabet of shapes. In fact, what you can show by recording neurons in the monkey brain [is] that different neurons encode these elementary shapes—*Ts *and* Ys *and* Ls*—which are present at the corners of shapes in the natural world.*
>
> *Of course, the scribes [who created written language in different parts of the world] did not know that these shapes were encoded in neurons in the brain, but intuitively, in a slow process of cultural evolution, they selected these shapes because they were easy to recognize by the brain and easy to learn. So in the end, we have a system [that] is extraordinarily efficient because it is well adapted to the existing structure of the brain. The extraordinary result is that all of the world's reading systems map onto the same brain area.*

This is true even when it comes to languages that are read left to right or right to left. Dehaene calls this part of the brain where spoken and written language come together the *letterbox*. Understanding how the spoken language and written language coalesce in the brain is crucial for understanding how children best learn to read—and thus how to teach them. Dehaene has mapped this process into stages:

> *The first stage seems to be a stage where children try to "photograph" words—they use all of their visual system's ability and they treat letters as three-dimensional objects. In particular, they cannot see that there is a difference between* b *and* d*, for instance,*

because for them it's the same object viewed in two different axes—so that would explain mirror errors that children make. They have to build to a second stage, which is [learning] that these are two-dimensional letters and that the letters individually map onto sounds. It's the grapheme-to-phoneme conversion.

A *grapheme* is a single letter or set of letters that maps onto the unique basic element of spoken language, which is the *phoneme*. When children learn to read, they have to learn the packages of letters that make up graphemes. Understandably, this process of mapping sounds to letters is quite different in different languages:

There are languages that are very transparent, such as Italian—if you learn the pronunciations of individual letters, you can read Italian; there are very few, if any, exceptions. In French or English, it's much worse—even when you know your individual letters, you still have a lot to learn because you have to learn many exceptions. At the brain level, we see that this will lead to more activation in this letterbox area. For children, it will take them one, two, or three years more to learn the information in English compared to Italian. So it's no wonder that it's difficult to read in English. It is one of the world's most difficult written languages.

At the brain level, reading takes place as a series of successive steps:

The first is in the retina [of the eye], where individual neurons only see small parts of the word. The word has exploded into a million different neurons firing together to represent the word. We think the brain does that by first recognizing singular letters, then putting these letters together so that there will be neurons that care about pairs of letters, and then these neurons themselves are put together into higher assemblies that care about small pieces of words such as prefixes, suffixes, and altogether this will allow you to recognize an entire word.

So in the second stage, [as] children learn the mappings from letters to sound (from graphemes to phonemes), they are very slow because they take the information one chunk at a time. You can see that because their reaction times for reading are directly proportionate to the number of letters. If the word is six letters, it would take them twice as long as for a three-letter word. In adults, you no longer see [this]; in expert readers, we take the whole string [of letters] and it is all processed at once—whether it is a long string or a short string, at least between three and eight letters.

The implication of these discoveries is that children don't read by recognizing whole words, so according to Dehaene, teaching children to look at the shape of whole words is counterproductive:

> *We should not care about teaching the contours of the word. This is meaningless for the brain. It might even distract children from the actual job [of learning to read]. The actual job is to understand that there are letters and that each of them maps onto sounds, or that combinations of letters map onto sounds. Indeed, educational research shows that the earlier you teach these grapheme-to-phoneme correspondences, the better you teach reading.*

Dehaene says that the jury is out on the best time for teaching reading—whether it is at five or six or seven years old—noting that there are very good results from countries that teach children to read at the age of seven. But the jury is *not* out about the importance of playing sound games with children as a foundation of their learning to read:

> *We can prepare children to read by playing games that are purely sound based, [such as] rhyming games.*

He thinks that these techniques can also be useful in preventing or addressing dyslexia. He notes that there are different kinds of dyslexia:

> *When we talk about dyslexia, we are talking about multiple categories—but it seems to be the case that the dominant variety comes from a problem with spoken language. These children seem to have a difficulty in discriminating the sounds of language. It can be quite subtle, and it may not impair [their] ability to communicate orally, but when it comes to learning to read, it creates a significant difficulty.*
>
> *There may be another category of children where the deficit comes from the visual level, and, in particular, it may be a deficit in attending to the locations of the letters and being able to scan the string [of letters in a word] in a way that you can really select one unit [of sound] at a time.*
>
> *What is striking is that all children benefit from [learning] the sounds of letters. Research is showing that even severely dyslexic children can benefit from these methods.*

LEARNING A SECOND LANGUAGE

One key finding of the Snow, Dickinson, and Tabors research is that children have better communication skills when they grow up surrounded by rich and meaningful language experiences. What about children who are non-English speakers? Catherine Snow worries about the children who are deprived of rich language experiences in their native languages during this time. She says:

> *The possibility exists that [non-English speakers] could be better spending their time expanding their first language, getting a really strong language base in the first language, and postponing the learning of English somewhat. And it would be nice to know whether it would be better for these children to be in first-language preschools or in English-language preschools, in terms of what they're going to do in second, third, and fourth grade later on.*

She knows that nonnative English speakers will need to speak, read, and write well in English during elementary school, but she questions the timing and approach.

There are some other common wisdom assumptions that Snow now knows are incorrect:

The evidence clearly demonstrates that there is no critical period for second-language learning. Snow reports that there's no drop-off in the ability to learn a second language and that older and younger learners make similar mistakes when learning a second language, suggesting that they're using similar cognitive processes.

Younger children don't necessarily learn a second language more easily than older children. Snow notes that older learners actually have some advantages. They can apply learning strategies and literacy skills from the language they already know. And, of course, learning a second language depends on the context. For example, younger learners typically learn a language by full immersion in the language. That sink-or-swim approach helps them become more fluent (as it would help older children, too). Nevertheless, younger children who have these experiences often lose their first

language in the process, and that is an extremely regrettable loss.

As Linda Espinosa, an expert on bilingualism, says, we tend to see bilingualism as a problem, but it is really an asset, particularly in the global world of today and tomorrow.

Janet Werker points to other assumptions that are not true:

Infants growing up in bilingual families don't get confused by hearing two languages. Bilingual babies can even tell the difference between two languages using only visual clues. Using the "preferential looking" procedure that I've mentioned a number of times in this chapter, Whitney Weikum, an alumna of Werker's doctoral program, exposed English-French bilingual babies to a person on a television screen speaking English—with the sound turned off—until the babies became bored. When that screen person switched to French—still with the sound turned off, the babies perked up and looked longer again, indicating that they recognized that the mouth movements were different in French than in English. This was true at four months and at eight months. Werker notes that bilingual children might engage in occasional *code switching*—using a word in one language when speaking the other language—but that doesn't indicate confusion.

Bilingual children do not experience delayed language development. According to Werker, there is no evidence that children from bilingual families have more or fewer delays or language disabilities than other children. She says:

In fact, the incidence of language delay and language disability in the bilingual population is virtually identical to what it is in the monolingual population.

However, she does point out that the process of language acquisition may differ in small but important ways between bilingual and monolingual children:

At about one and a half years of age up to three or four, the total vocabulary size of a bilingual child is equivalent to a monolingual child, but in a bilingual child, it's divided across two languages. In the early stages of [language] acquisition, the bilingual child's

vocabulary is probably not as large in each of their languages as a monolingual child's. Is this a delay? We don't think so. We think it's a difference.

Sometimes it can appear that [bilingual children] are getting confused for a period of time, but [they're engaged in] a more difficult task. A bilingual baby has to keep track of two sets of sounds simultaneously and set up categories in each. So if it does end up taking them a little bit longer, it's okay. Ultimately what they have is two sound systems, two vocabularies, and two sets of syntactic rules.

HOW CHILDREN MOVE FROM LEARNING THE TOOLS OF LANGUAGE AND LITERACY TO USING THOSE TOOLS TO COMMUNICATE

Language and literacy are the tools we use to communicate, but they're *only tools*. One can be very literate but be a terrible communicator—and it takes two to communicate, as this all too familiar story from a mother reveals.

A PARENT'S PERSPECTIVE: I THINK MY HUSBAND CAN'T COMMUNICATE, BUT HE THINKS I CAN'T

I am sorry to say that I think my husband is lacking in the communication department. I find this amazing, because he manages a business with over fifty employees and it is his job to help others communicate and problem-solve. When he comes home, it seems he shuts that switch off.

Just this morning we had an incident. I usually take my son to and from day care, but today my husband was doing the shuttling. I got up first—I let our three dogs out, fed them, fed the cat, made the baby his bottle, ironed a shirt for my husband, changed the baby's diaper, and dressed him.

My husband proceeds to go into the bathroom to get ready, leaving me to feed a crying, hungry baby. Needless to say, I got upset and yelled that I needed to leave for work, too—I was late. He responded that if that was the case, I was not communicating—I was simply assuming he would know this. It was my fault.

I've accepted that we both need to work on talking—since he feels it is my fault and I feel it is his fault.

HOW CAN YOU PROMOTE COMMUNICATING WITH CHILDREN?

First, a few dos and don'ts.

Do: Remember the purpose of language.

Language is a tool by which people express their thoughts. Everything children are going to learn, they are going to learn through their ability to understand language and to produce language.

—JANELLEN HUTTENLOCHER, UNIVERSITY OF CHICAGO

Don't: Think that using flash cards is promoting communication skills.

There are so many ways that parents and caregivers can encourage language in young children, and it's not through flash cards—it's through conversations, it's through questioning, it's [through] being responsive to what a child is interested in.

—KATHY HIRSH-PASEK, TEMPLE UNIVERSITY

Do: Know that you are your children's most important guide into the world of language.

Think of yourself as [your] child's greatest plaything. Your voice, your face, the things you do, your actions are what intrigue them most. They have a natural curiosity for the things that humans do.

—PATRICIA KUHL, UNIVERSITY OF WASHINGTON

Don't: Think you have to buy expensive products to teach your child about communicating.

Rather than buy fancy software or expensive toys, the thing to remember is that you and your time are the most valuable things to a child.

—PATRICIA KUHL, UNIVERSITY OF WASHINGTON

Do: Listen and be responsive to your child.

Children learn language in a situation where they talk to you about what they're interested in and you respond.

—CATHERINE SNOW, HARVARD UNIVERSITY

Don't: Drown your child in words.

When your children have had enough stimulation, they'll pull away. Be respectful of this and engage them again when they are ready to reengage.

SUGGESTION 1: CREATE AN ENVIRONMENT AT HOME WHERE WORDS, READING, AND LISTENING ARE IMPORTANT.

In order to promote literacy and communication skills, we must exercise them ourselves. Children learn what they see and live.

In retrospect, I see that this is something that my mother did very well. She was always interested in new ideas and new information right up until the end of her life, at almost ninety-eight years. In fact, two months before she died, we used a quote of hers on my organization's holiday card: "If you stop learning, you stop living."

My childhood home was filled with books, which Mother treasured and which my sister and I treasure now. Before I could read, I remember poring over a book of Russian fairy tales with pictures embossed in glossy colors—gold, purple, and royal blue. They sparkled and were just as fanciful as the stories themselves when I was old enough to hear them.

Mother was always reading and talking with us about what she was reading. In the days before book reviews were posted on the Internet and everywhere else, she had a mutually beneficial arrangement with the owner of the local bookstore. Because he couldn't read every new book but knew his customers would expect him to "provide reviews," he enlisted my mother as a reader. Every few days she would return a book she had finished, share her opinion with the bookstore owner, and pick up the next one. Reading was so important to her that the book club she belonged to before she died now bears her name.

I remember Mother reading anything and everything: the print on the cereal box if she was waiting for her coffee to brew, the ads in the local paper for dogs for sale—everything. And I remember dinner table discussions often being about books we were reading—a tradition I continued with my children.

A love of language, of literature, and of the world it can bring to our imaginations is

contagious. I caught it from my mother and am happy to have passed it on to my children and others.

SUGGESTION 2: NARRATE YOUR CHILDREN'S EXPERIENCES WITH PARENT-TALK, PARENT-LOOK, AND PARENT-GESTURE.

Talk to your child from the moment of birth on. Think of yourself as a sports announcer, giving a play-by-play description of what is happening: "Oh, you just woke up. Are you hungry?" But, as I've said, be sensitive to the times when the kids want to tune out.

Use parent-talk with very young children. The music of the sound, the variation in pitch, and the slowed-down speech help infants begin to detect the words in the "sea of sound" that surrounds them.

Use parent-look and parent-gesture. If you want your child to pay attention to something, look at it and point to it.

Name what you're looking at. "Look, Ana, there is a bird. It is flying high in the sky." Remember, children are more likely to remember words if you put them at the end of the sentence or if the words follow their names. Catherine Snow points out that the best talk with toddlers is "simple, concrete, repetitive, and responsive."

Elaborate your child's communication. Whether it's a grunt, a babble, a point, or a word, say more when you respond to your child. "You said Ma-ma. Where is Ma-ma? She is over there. Let's go see her."

Use familiar words again and again. Children will be more likely to remember words they hear often: "Where's your nose?" "Where're your toes?"

Play games. Peekaboo and pat-a-cake are wonderful word games. Our favorite game with Philip came from his once opening the door to a room and saying, "No buv-de d'ere," meaning "Nobody's there." We made that into a family game and always opened doors to rooms, closets, and cabinets, asking, "Who's there?" He would respond with his refrain: "No buv-de d'ere."

Use familiar words in new ways. Roberta Golinkoff says:

Think about how many meanings we have for the word "run." You could say, "Mommy's running," "the dog is running," "the stocking is running," "my nose is running," "my temperature is running high."

As your children move into the preschool years, give old words new meanings.

Use new words. Remember Catherine Snow's findings that children who were better at communicating had parents and teachers who used more sophisticated words. I remember that Lara as a little girl would often say, "That's interesting." Finally she asked, "What's interesting?" (She would have said "What does interesting mean?" but she didn't know the word "mean" yet.)

Use nouns, verbs, and adjectives. Children learn nouns first, but you can introduce them to verbs and adjectives by elaborating what they're saying. When they point to a neighbor's dog, you can say, "That fluffy white dog is named Marshmallow. He loves to

run into mud puddles, and then he isn't so white or fluffy anymore."

SUGGESTION 3: USE "EXTRA TALK" AND TALK THAT GOES BEYOND THE HERE AND NOW.

In their book *Meaningful Differences in the Everyday Experience of Young Children,* Betty Hart and Todd R. Risley found, on the basis of an observational study of forty-two diverse parents and children at nine months of age and continuing through thirty-six months, that parents use two different types of language in talking with their children.

One is *business talk*—such as "Stop that," "Do this," or "Come here"—that expresses the adult's needs. This language is matter-of-fact, direct, and doesn't involve many words.

The other is *extra talk*—where parents talk about "what if," "remember," and "what do you think," or use other words that respond to, elaborate, and extend what their children are doing or saying. This rich talk, employing a large vocabulary, is a part of the connection (or social "dance," as they call it) between parent and child, and it conveys meaning and intellectual ideas. Hart and Risley found that this extra talk has a very high correlation with children's performance on IQ tests at three years of age and with their performance on achievement tests in the third grade. When the researchers compared the relative importance of children's socioeconomic status, their ethnic background, and the extra talk they experienced, they found that only the extra talk made a difference in children's academic success.

A PARENT'S PERSPECTIVE: FINDING THE NEW IN THE FAMILIAR

Our son, almost two, also loves his reading time, often picking the same favorites to read over and over again. One of his favorites is *Good Night, Gorilla,* and he laughs each time we get to the part about the gorilla in bed with the zookeeper. While I can recite that book now by heart, he still loves it. I thought I would be sick of it, but we can still find new things to look at in the pictures and new ways of talking about what's happening in the story. Sometimes, after reading a book five hundred times, you start going beyond the written words and start talking about other aspects of the characters, the scenery, or the plot. Last night, we talked about why the gorilla wanted to get out of his bed and sleep in the house with the zookeeper, and why the armadillo had a bottle in his cage (which is a good topic to bring up lately, since we're working on him giving up his last bottle soon).

SUGGESTION 4: TIE YOUR TALK IN TO WHAT IS INTERESTING TO CHILDREN.

Roberta Golinkoff's research has shown that babies are most likely to learn the names of things that they find interesting, but as they gain the ability to take others' perspectives, they can learn what others like as well. She says:

> *At twelve months of age, babies learn words mostly from their own perspective. If they like an object and they hear the name for it, they will learn it—but if you try to teach them the name for a boring object, it's very unlikely that they will learn its name. By nineteen months, they can overcome their admiration for a particular object and learn the name even for a boring object.*

Many children have what Judy DeLoache of the University of Virginia and her colleagues call "extremely intense interests"—which they define as a long-lasting passionate interest in a category of objects or activities. They describe the story of a baby who was drawn to the globe light hanging over his changing table, which evolved into a passion for balls of all kinds. Philip had that kind of interest in music from as early as I can remember. At three, he would ask for his drum as soon as he woke up. I recorded the following conversation in a book I wrote at the time, so this is not revisionist history. He said: "I want to play my drum. I'm going to have a band, Mommy. Where's my drum?" Several decades—and a doctorate in ethnomusicology—later, he plays percussion professionally and is the director of a music and dance performance group. Music was his "lemonade stand," my metaphor for something children care passionately about. Children's interests are the launching pads for building communication skills.

AN ADULT'S PERSPECTIVE: THE GIRL IN THE TUTU

I've been a passionate student of ballet and dance for fitness (and sanity) over the past twenty-six years. I started in college and have continued ever since. A few years ago, when my mother was moving out of my childhood home, she divided the family pictures

between my sister and me. I was leafing through photos of grandparents, aunts, and family vacations when suddenly I came upon a large black-and-white photo of five little girls, about six years old, standing proudly on tiptoe, arms aloft, wearing shiny tutus and sparkly tiaras. And guess who was right in the middle, smiling her heart out? I hadn't remembered taking any dance lessons, but this photo was apparently so important to me at the time that I'd used my beginning writing skills to print on the back, in big, straggling block letters, the names of the girls—in numbered order, left to right—and the color of the tutu. It was an amazing lesson in how that passion was always there, even though I'd forgotten it for a while.

SUGGESTION 5: TELL STORIES ABOUT YOUR LIFE AND ASK YOUR CHILDREN TO TELL STORIES ABOUT THEIRS.

Stories are what bind us together; they are what tell us that we are part of a family or community. They convey our traditions and our favorite memories.

We always told stories when I was growing up; West Virginia retained that southern tradition. Someone walking by my grandmother's porch would stop to talk, and that would launch a story stretching back generations. I felt that stories were a key to unlocking the realities of the grown-up world.

In my family, we have traditional stories, but my children's favorites are the ones that set me off on uncontrollable laughing sprees. Among those is the story about how their uncle Bill had installed a computer device in his home to tell him if anything was going wrong. One day—when something did go wrong—Bill was away from his desk and the computer call went into the switchboard of the bank where he worked. It kept redialing and saying, "The water temperature is..." By the time Bill returned to his desk, the central authorities of the bank had been called in to deal with what they thought was a hoax, but it was only "Oscar," as we had named his computer device. Or there's the story about how I once tried to order lemon sherbet in French (*citron*), but I actually ordered a car (Citroën).

Dorothy Strickland suggests taking children to interesting places (like the zoo) and then having them retell the story of the visit. She says:

I say kids who are taken places—and I'm not talking about exotic places—are lucky kids!

SUGGESTION 6: READ, READ, AND READ SOME MORE WITH YOUR CHILD.

Study after study finds that reading with children is a powerful force in their lives and a pathway to better communication skills. Catherine Snow explains why:

> *Books do something that a pile of toys on the floor doesn't do. [If] you have a two-year-old child, you [are likely to] say, "Go play." The toys are for the child. But the book is clearly something that adults have to help children appreciate.*
>
> *Nobody expects a two-year-old child to read a book on his or her own. Now, of course, many two-year-old children might look through books on their own, or even pretend to read them on their own. But if you have a new book, the adult has to be there to help the child understand the book. The book creates a platform on which the conversation takes place. [The adult is there to] interpret, to name the pictures, to describe the action, to explain what's going on.*
>
> *This is one of the reasons why research shows that families in which children are read to regularly are families whose children are more likely to arrive at school ready to learn, with bigger vocabularies and a greater capacity to participate effectively in classrooms. [It's] because they've had this kind of focused conversation with adults.*

Snow's point is essential—books provide a forum for a focused conversation. Learning is powerfully enhanced when children and parents are paying attention to the same thing. Researchers call this *joint attention*. Remember the gombie experiment where babies learned language better when the adult served as a vector for the child's attention: looking at, pointing at, and naming an object. Books offer the ideal opportunity for parent-look, parent-gesture, and parent-speak.

When a colleague heard about the importance of reading to children, he thought that the right thing to do was to read as many books a night as possible to his preschooler. But it's your attitude and approach, not quantity, that matter. If reading is a chore for you, it will seem like a chore for your children. If it's a joyful activity, it will be joyful to them. Even if you just get through the first page of a book but you've had a great conversation, you've given your child a great reading experience.

Here are some of the things you can do with books.

With infants and toddlers:

Get books that young children can't harm when they put them in their mouths—heavy cardboard books, laminated books, or cloth books. Also get books featuring things children can do. That's why *Pat the Bunny* is a classic. Many of us remember patting the soft bunny or feeling the scratchy face of the man in the book; now we can share these experiences with our children.

Point out the pictures. Judy DeLoache has found that very young children don't comprehend that pictures stand for or represent something else. She and her colleagues found that nine-month-olds would actually try to lift the pictures off the page. They also tested fifteen- and eighteen-month-olds to see whether they could transfer new information from a picture in a book to the actual object or from the actual object to the picture. Children were shown pictures of objects they had never seen before (for example, a wire egg holder) with a made-up name (a *blicket*). They found that fifteen-month-olds could recognize the blicket if the drawing was realistic, but not in cartoon form, while eighteen-month-olds could recognize both the cartoon and the realistic versions. The implication of this study is that if you want very young children to learn about new things (zebras, for example), realistic pictures work better than cartoon pictures.

Get books with a catchy refrain that children can begin to remember, such as *Hop on Pop* by Dr. Seuss. As children get older, they love to shout out the refrains.

Create traditions for family story time. In our family, until Philip and Lara were in the late school-age years, we had "special time" at bedtime, when each could select books to read with us.

With preschoolers:

Use books as conversation starters. Ask children to put themselves in the place of the characters and imagine what the characters might be feeling or thinking. Using

Judith Viorst's book *Alexander and the Terrible, Horrible, No Good, Very Bad Day* as an example, you could ask: "Why do you think Alexander had such a horrible day? What would you have done if you were Alexander? Would you want to move to Australia?" And if your child likes this book, have him or her look for other Alexander books.

What and why questions are wonderful prompts for discussion. Ask your child to guess what is going to happen next and then see if it comes true.

Encourage your children to ask you questions about the stories. If you answer, share your process for finding the answer: "I didn't remember whether the boy in this story had a sister, so I went back to the beginning of the story to find out."

Select stories whose emotional themes resonate with your child. If your child doesn't like to go to new places or thinks there are monsters under the bed or is interested in dinosaurs, there are books on these subjects.

Select stories that play with language. Children are beginning to know letters and their sounds, and there are many clever books on the alphabet or with great rhyming refrains that help children play "sound games." If there's a rhyme in the book, ask your child how many other words he or she can think of that sound like that word (e.g., *rat, sat, pat, brat, scat, fat*).

Know that reading with your child is what matters. Kathy Hirsh-Pasek collaborated with two graduate students on a study of traditional reading versus reading using electronic books (or e-books). As opposed to the interactive give-and-take when parents and children read together, they found:

The e-book is asking questions and demanding answers and the parent [is] left out of the picture. The child doesn't look at the parent and the parent doesn't get to ask a lot of questions. The parents are mostly saying, "Oh, push that button." So [parents become] directors instead of engagers.

For school-age children:

Make reading a family tradition. You can read stories aloud as a family; these times will become treasured memories.

Select books that extend your children's interests. When he was six, one child I know was interested in everything dinosaur. We got him dinosaur posters, books on dinosaurs ranging from reference books to stories, and plastic dinosaurs so that he could act out dramas with them. As Kathy Hirsh-Pasek says, "Books can take us to worlds well beyond their covers."

Help your children begin to read the books themselves when you sense they are ready to do so. In the beginning, they may memorize the words. If so, help them sound them out. You can play a game where you read one word and they read the next.

SUGGESTION 7: PLAY WITH WORD SOUNDS.

You can communicate a love for word sounds from your child's earliest years by singing and dancing together. As your child gets older, here are some games to help your child learn the beginnings of phonics.

Play guessing games with the first letters of words. "I am looking for something

in the market that begins with an *a* sound." "Right, it's apples!" "Your dog Betty Poochie's name begins with a *b* sound. Who else in our family has a name that begins with that sound?" "Betsy!"

Clap the syllables while you say the sounds. Beginning with your children's names is always good. Phil-up (two claps), La-ra (two claps), and so on. But you can also use this technique for "I Spy" games: "I spy something in this room, and its name sounds like this," and make one clap. If they can't guess, give them another hint. "It rhymes with *hair*." "Yes, it's a chair."

Help children begin to blend word sounds to make words. They can also play with taking away sounds. For example, "If Fred's name didn't have an *F* in it, what would it be?" "Red!"

Play the alphabet game. Children think of words beginning with each letter of the alphabet and others have to guess the words.

Give children reading assignments when you go shopping. One of mine was that my kids could select any cereal they wanted as long as sugar was listed after the fourth ingredient. When they were smaller, I gave them pictures of products to match and find on the shelf, like the label from the flour we use for our Sunday morning biscuits. Dorothy Strickland suggests making a marketing list and when you take something off the shelf, have the child cross it off the list.

Play with tongue twisters. See if your child can say: "Peter Piper picked a peck of pickled peppers." Use the nursery rhymes and stories from your own culture for these games.

SUGGESTION 8: ENCOURAGE YOUR CHILDREN TO WRITE.

You can encourage writing long before your children know how to write, by taking dictation from them. When he was three, Philip became intrigued with clowns after seeing slightly scary clowns in a neighborhood Fourth of July parade. He did a series of clown drawings (which I still have—they are whimsical and wonderful). I always asked him what he wanted to say about the clowns. He would say a few words, which I would write down. My practice of making books for my children led Lara at age four to make her own books from construction paper stapled together (which I've kept, too). As she learned to write, she would write some of the letters herself.

When children are getting interested in writing, they pretend to write by making squiggles on the page. These should be appreciated. You can ask, "What are you writing about?" Your children may want you to write the actual words beside their words, or they can write them, usually with their own invented spelling. Catherine Snow feels that invented spelling is beneficial because children have to listen very carefully to the word and stretch the sounds out to try to spell it.

One of the first words that most children learn to write is their own name. Write it for them at first, and then help them learn to write it themselves. Lara loved to write her name with different-colored Magic Markers.

In addition to having the children keep journals, the elementary school my children attended did something else I think was a very good practice. They let the children use invented spelling in their journals, and then their "assignment" was to edit their stories. The teacher would underline misspelled words and grammar errors so that the children could correct their own work. They then wrote down the correctly spelled words and their definitions, making their own dictionaries. Their spelling quizzes were based on the words in their personal dictionaries. This technique taught my kids the rudiments of grammar and spelling without killing their joy in writing and communicating by endless drill and practice that disconnected writing from its basic purpose—to communicate.

SUGGESTION 9: SELECT EARLY CHILDHOOD PROGRAMS WHERE COMMUNICATION SKILLS ARE EMPHASIZED.

The research of Snow, Dickinson, and Tabors has shown that teachers make a difference,

especially when they engage in *cognitively engaging* talk, use more complex words when they talk with children, and plan their curriculum activities. Similarly, Janellen Huttenlocher from the University of Chicago conducted a study of more than three dozen preschools where she and her colleagues taped the language of the teacher and then evaluated the impact on the children. Children whose teachers used more complex language had higher comprehension levels.

SUGGESTION 10: GIVE CHILDREN ACCESS TO MANY FORMS OF MEDIA COMMUNICATION.

Painting, drawing, sculpture, collages, dancing, singing, playing instruments, making videos, taking photographs—all are crucial vehicles for communication. Many of the most groundbreaking contributions to human culture communicate in nonverbal form. We need to ensure that our children have access to many types of media to express themselves.

SUGGESTION 11: CONTINUE TO PROMOTE THE SKILLS OF FOCUS AND SELF CONTROL.

Numerous activities you can do with your children are described in chapter 1, on focus and self control. In addition, you can do a variation on the "Simon Says, Do the Opposite" task discussed there by playing the Head-to-Toes Task described earlier in this chapter: If you say, "Touch your toes," the children are to touch their heads; if you say, "Touch your head," the children are to touch their toes.

SUGGESTION 12: EMPHASIZE EFFECTIVE COMMUNICATION.

With school-age children, help them analyze their own and others' communication.

When they read something written by someone else, help them discuss how effective it is in communicating. What message do they think the author wanted to communicate? Is this message well communicated? Is it written too intellectually, or does it affect their feelings? Does that matter to them?

If you know any writers, ask them to talk about their writing with your children. If your child has a favorite author, write a letter to him or her. I wrote to my favorite author when I was ten and she actually wrote back. That made a big difference in my life—it made me feel that writing a book was a goal I might someday be able to attain.

Have children look at their own writing through the perspectives of others. What do they think their teacher will say about it? Their grandmother? Their friends? Why?

IN SUM

Janellen Huttenlocher makes a point that aptly summarizes much of the research on literacy and communication skills:

> *It's very important that language be embedded in a positive environment where everybody is thrilled—not about learning language per se, but learning something [they care about].*

Patricia Kuhl echoes this sentiment:

> *As I've watched my own child grow, there are various times and various things that light her up. As parents and as caretakers of a whole generation of kids, we have to be tuned in to the engagement process.*

Children are born engaged in learning. With our help, they will remain engaged. Communication skills extend their learning by giving them the tools not only to learn from others, but to share what they've learned with others. What better gift can we give them than the ability to send their messages into the world?

> *Language development is not an end point. It's a process that starts with the very first smiles, the very first gaze, the very first back-and-forth [connection]. That turns into an opportunity for us to label words and for children to map those words together with their ideas, to understand the intents and minds of others, and to express what they want to say.*
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> —KATHY HIRSH-PASEK, TEMPLE UNIVERSITY