Paying attention to language

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Forty-three years ago, Bloomfield and Barnhart (1961) published *Let’s Read: A Linguistic Approach*. Their notion of linguistics-informed literacy instruction was to carefully control the vocabulary of texts in order to exploit phonetic regularities. In Lesson 4 students read, “A man at bat had a tan cap” (p. 63). Even as far along as Lesson 115, they read, “‘Thanks, Dad, thanks!’ said Nan. ‘Now let’s spank that bad Champ!’” (p. 234). My purpose in this brief review is to argue that in literacy education, practice informed by linguistic theory has come a long way in 43 years.

Great practical benefits are to be had from teachers’ paying attention to language as linguists do—and as few people do in the ordinary course of daily living. The paying attention to language espoused here has some resemblance to the notion of metalinguistic awareness (Yaden & Templeton, 1986), but it is broader; it involves more aspects of language than metalinguistic awareness typically does and applies as much to adults as to children. My argument here is that paying attention to language in ways not usually demanded in everyday use of language is essential to an understanding of the relation between children’s spoken language competence and their written language acquisition.

Language is all around us, but its workings and interrelations are difficult to see. We take them for granted. Children’s spoken language performance (but not their written language performance when beginners) and adults’ spoken and written language performances usually operate at an unconscious level. Nonetheless, choices about what and how to teach will benefit from greater appreciation for what the relation between spoken language acquisition and written language acquisition entails.

The transparency of everyday language

Any description of language includes knowledge; as language users, we know rules for pronouncing, for choosing words, for making sentences, and for engaging in conversation. Most of that, however, we know without knowing that we know; some of it we never had to learn because we were born knowing it.

Most of the time, most speakers, though they may make conscious choices about content, make very few conscious choices about form. Suppose you have rea-
son to confess to making some mistakes. Do you consider the syntactic options and weigh the different likely impacts on your listener when you say *Mistakes were made* instead of *I made mistakes*? Possibly. But do you consciously decide to move the direct object (*mistakes*) of the latter sentence to the subject position in the former sentence, insert the plural past tense form of *to be*, and delete the true subject of the sentence (*I*), declining even to exercise the option of saying *by me*? I doubt it. More likely, the less damning *Mistakes were made* just jumps from your lips, especially if your listener is in a position to cause trouble for the maker of the mistakes.

For sure, you do not have to deliberate over the choice of phonemes in the word *mistakes*; nor do you agonize over how to sequence those phonemes (English does allow different ordering of the same phonemes, as in the fifth and sixth words of *He picks up the stick, aims it at his enemy, and throws*), blend them (the pronunciation of each phone is colored by the pronunciation of those that come before and after it; the *k* sound in *mistakes* is less completely pronounced than the *k* sound in *stick, aims* because of the immediately following *s* sound), or inflect them (stressing the second syllable of *mistakes* in both *I made mistakes* and *Mistakes were made*), though, in a different context, the same syllables would be pronounced with stress on the first as in *She prefers to be called Miss Taykes, not Ms. Taykes*).

In contrast, written language acquisition and pedagogy frequently involve conscious decisions about form. Four-year-old inventive spellers who want to write *chair* pay attention to phonemes in a way that they never had to when learning to speak (knowledge of phonemes in speech is unconscious—see the examples in the previous paragraph—and it exists even in infancy; as Eimas, Siqueland, Jusczyk, and Vigorito, 1971, demonstrated, children are born able to perceive phonemes). Then inventive spellers consciously review what letter names they know, and if they know that *h* is called *itch*, they choose it because of the presence of the *ch* sound in *itch*, spelling *chair* HAR (Read, 1971). Furthermore, teachers of 4-year-old writers have to ask themselves, “How can I help Sammy spell *chair*? Will he know what I mean if I say *beginning sound*? Instead of *Listen to the beginning sound*, I think I’d better say *Just start to say chair*. And then I’ll demonstrate: *Chair—ch—.*” At a different level of decision making, that teacher also must decide whether and when it is pedagogically sound to allow, or in fact to encourage, such a systematic but unconventional spelling.

**What counts?**

What counts as spoken language knowledge? Does it include what children know without knowing that they know? How does it relate to their learning to read and write? Which parts of that relation are simple—a matter merely of speech written down—and which parts are complex because they demand a new consciousness of form? In what ways are adults’ teaching reading and writing different from *their doing* reading and writing? Answering this last question involves perhaps the most difficulty of all attention paying, for although adults, when they were the age of their students, once had to deliberate about the forms and processes of written language, for a long time they have been able to read and write with nearly the automaticity, the knowing-without-knowing, of speech.

**Formal aspects of language**

Much research about the relation between spoken language knowledge and written language acquisition focuses on language forms, that is, on the formal characteristics of speech. These include sentence structure (syntax), the architecture of words and word parts (morphology), word meanings and word choices (semantics), and the characteristics of and interplay among sounds (phonology). But the greatest attention has been on phonology, and even then, mostly on a subset of phonological knowledge, awareness of phonemes.

**Phonology**

Phonology includes all that involves sounds in a language. This ranges from, at the large-scale, intonation patterns that constitute the melody of a language (e.g., how German sounds different from French) to, at the very small scale, features of phonemes (e.g., that the *s* and *z* sounds differ by only one feature, that is, that the *z* sound is voiced and the *s* sound is not). Most attention in recent years has been at the level of the phoneme, and for a good reason:

Faced with an alphabetic script, the child’s level of phonemic awareness on entering school may be the single most powerful determinant of the success she or he will experience in learning to read and of the likelihood that she or he will fail.... [Phonemic awareness] may be the most important core and causal factor separating normal and disabled readers. (Adams, 1990, pp. 304–305)
At the stage in their literacy development when children explore the workings of an alphabetic language like English, they need to be able consciously to attend to phonemes. Such conscious attention is phonemic awareness, and it facilitates children’s coming to understand how phonemes correspond with letters. And that understanding is the goal of phonics, which is both an approach to instruction and a strategy for word identification and spelling. Teachers’ paying attention to language must include their recognizing what phonemes are and how they function in both speech and writing. They are the units of sound which in combination form words (/ms/ + /s/ + /s/ = Miss) and in contrast with one another distinguish words (Miss and Ms. are distinguished only by their final phonemes, /s/ and /z/, respectively). Phoneme-letter pairings are not always one-to-one (Miss and Ms. have the same number of phonemes, three each, but are spelled with four and two letters, respectively).

Children have unconscious phonemic knowledge at birth; infants as young as a few weeks old, for example, can distinguish between /s/ and /z/ (Eimas et al., 1971). Children use that knowledge within a few years to recognize and produce spoken words. But for those purposes, phonemic knowledge is unconscious. Raising it to the level of consciousness, that is, to phonemic awareness, is necessary for reading and writing. Teachers need to be able to recognize what level of such awareness their students have and know instructional strategies for supporting its development to the level that children can use it in phonics for reading and spelling.

Contrary to what one might suppose from all the attention given to it in recent years, phonemic awareness, while necessary to success in beginning reading and writing, is not sufficient. It is not the be-all and end-all of early literacy learning or teaching. Even without leaving phonology behind, there are other aspects of the sounds of a language to which children and teachers must pay attention. Evidence suggests that children’s attention to syllables as units of sound, and especially to onsets and rimes within syllables, is conducive to their developing phonemic awareness (a rime is the part of the syllable beginning with the vowel sound; an onset is the consonant sound or sounds that may precede the rime; fate has a rime, -ate, and an onset, f; eight is all onset, no rime) (Treiman, 1985). It is easy to see why such attention may be a stepping stone to phonemic awareness, for most onsets are single phonemes. For the same reason, awareness of rhyme can be a phonological precursor to phonemic awareness; rhyming words usually differ by a single, initial phoneme (they have identical rimes, but different onsets).

Children and their teachers benefit also from paying attention to phonology at the largest scale, that is, to intonation. Spoken language is rich in intonation. Children know from an early age to use it to distinguish, for example, questions from statements. Questions have end-rising intonation, whether worded as questions or not: Is today Wednesday? Today is Wednesday? Statements have end-falling intonation: Today is Wednesday. Children also use intonation in less obvious ways, for example to recognize the subject-predicate boundary. Read and Schreiber (1982) tape recorded sentences like these:

(1) The boys’ race is scheduled after the girls’.
(2) As soon as the bell rings, the boys race to line up.

The underlined parts of (1) and (2) are made of identical strings of phonemes, but they have different intonations, owing in part to the fact that in (1) the underlined part is the subject of the sentence, while in (2) it straddles the subject-predicate boundary. Cutting and swapping the underlined parts of the audio recordings disrupted children’s comprehension.

Teachers need to pay attention to the rich role of intonation in spoken language comprehension because written language does so little to represent intonation; punctuation is a pale substitute for intonation (the underlined parts of the written sentences in (1) and (2) differ only by the presence or absence of an apostrophe). Children need help recognizing and using punctuation but also using meaning clues to invest text with melody (to “read with expression”). If, from what I have already read, I understand that at issue is who is pitcher, I will read Pam is the pitcher with stress on Pam, meaning not Joe or Sally; if, from what I have already read I understand that at issue is what position Pam plays, I will read the same sentence with stress on pitcher, meaning not catcher or short stop. This is just one example of how meaning functions during the reading process, it is not just an outcome.

Morphology

What else about the forms of language must teachers pay attention to? Morphology is concerned with the architecture of words and word parts. Concept of word is well known as a fundamental construct in emerging literacy (Downing & Oliver, 1973–1974; Morris, 1981). Recognizing word boundaries in texts and marking them (at first with
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dots and lines and then later conventionally with spaces in their writing are major achievements of beginning readers and writers. Teachers of older readers and writers have long been accustomed to directing students’ attention during word identification and spelling to root words, suffixes, and prefixes (Johnson & Pearson, 1978).

Beyond this, morphology provides examples of teachers’ needing to know more than they will teach their students, so that they can make the best decisions about what to teach, what not to teach, and how to talk about what they do teach. A morpheme is a unit of meaning. Words often are single morphemes: walk, hand, fast. But they may be composed of more than one morpheme: walked (= walk + past tense), hands (= hand + plural), faster (= fast + comparative). The same is true of syllables; each syllable of faster is a morpheme, but ran is two morphemes (run + past tense), and each of father, other, and water has only one morpheme. It sometimes helps to look for root words and then ask how additional parts alter their meanings (teacher = teach + er, where -er means one who does), but that does not mean that word hunting is productive (teacher contains teach, tea, each, ache, he, and her, but only the first of those has anything to do with the meaning of teacher). Teachers need never use the word morpheme with students, but if they know what morphemes are and are not, their teacher talk will be free of misleading overgeneralizations, such as “A morpheme is a word,” “-er means more,” or “To understand, look for words inside of words.” (In a similar manner, teachers who pay attention to phonology will not say that we mark past tense with “uhd”; that works for wanted, but not for walked [where the -ed represents /t/]) nor for played [where -ed represents /d/].

Semantics

Semantics, like morphology, is concerned with meaning, but on a larger scale. Its focus is on word meanings, but also on how words mean together. Most of us can define the word love, but a full accounting of its meaning must include how it means different things in different contexts: My brother George loves his wife, My brother George loves his country. My brother George loves to garden, My brother George loves science fiction, My brother George loves getting out of doing the laundry. Similarly, the word loves in the verb position in these sentences restricts our choice of words for the subject position: My brother George works in all of them (even though the propositions thus stated may be untrue). My sister Mary works in some but not all, and My dog Fido works in none.

Recognition of the way words work together is the basis for much reading instruction that emphasizes context, as when using surrounding words as aids in word identification, word understanding, and passage comprehension. Goodman’s (1967) classic characterization of reading as a psycholinguistic guessing game, with, among others, a semantic cuing system, is consistent with this view of semantics. Schatz and Baldwin (1986), however, presented evidence that with older students (10th and 11th graders) and low-frequency words, context clues are not reliable aids to word comprehension. They suggested that context clues work best for word identification, that is, for identifying words already in readers’ vocabularies, not for learning the meanings of words new to the reader. “Context clues work best when the target word is redundant with the rest of the context and contributes little new information to the passage” (p. 451).

Vocabulary development is one of the most visible and important aspects of language acquisition in children. The number of words in a child’s vocabulary is an indicator of his or her linguistic health and a factor in his or her ability to use language in varied contexts and for multiple purposes. Numerous studies (e.g., Snow, Burns, & Griffin, 1998; Snow, Tabor, Nicholson, & Kurland, 1994) list vocabulary knowledge among predictors of success in learning to read. Teachers who pay attention to children’s vocabularies will design learning environments that promote extended conversation and include rare words (Dickinson & Sprague, 2001).

Syntax

Syntax is concerned with language forms at the sentence level, where the relatively small number of sentence structures that are available to speakers of a language enable them to convey an infinite number of propositions (Chomsky, 1957). An example given earlier is the active sentence structure of I made mistakes and the passive sentence structure of Mistakes were made by me and Mistakes were made. Those are common enough sentences, but the same structures are available in English for sentences one is much less likely to encounter, such as, CNN televised the First Continental Congress. The First Continental Congress was televised by CNN, The First Continental Congress was televised. The same structures can even be used for nonsense, where the content is meaningless but the syntax is recognizable and grammatically acceptable: A glongy phloginated the pristers, The pristers were phloginated by a glongy, The pristers were phloginated.
Teachers who pay attention to syntax in the language environment and to children's syntactic development will scaffold use of difficult and late developing sentence structures. Children's competence with the passive sentence structure is a later development than their competence with the active sentence structure (Bever, 1970). Chomsky (1969) documented children's continued syntactic development, especially development of competence with complex sentence structures, well into the school years. The fact that written language typically uses more complex sentence structures than does spoken language raises a chicken-or-egg question. The influence is probably two-way: Exposure to complex sentence structures in their reading helps elementary school children to acquire competence with those structures, and increased syntactic competence helps them to read better. Leu (1982) compared second graders' reading of texts composed using oral discourse structures and their reading texts in written discourse structures. Texts using written discourse structures were more difficult to comprehend and produced more oral reading errors. “[Children's hypotheses] based on the syntactic probabilities of oral discourse often conflict with the more integrated patterns of written discourse. As a result, comprehension suffers” (p. 124).

Nonformal aspects of language

Nonformal aspects of language include—to name just a few—what children know about the functions of language, the mechanics of conversation, and the structures of stories. Halliday (1975) described seven functions of language: to express needs and wants (I want juice), to regulate others' behavior (Don't!), to facilitate interaction with others (Let's play), to express opinions and feelings (I like purple), to give voice to the imagination (You be Luke Skywalker, I'll be Princess Leia), to inquire (What's that?), and to convey information (That's a pterodactyl). His work has done more than anyone's to provide speakers the back channel feedback (e.g., yeah, uh-huh) that adults use to signal that the conversation is working. Conversational shortcomings are also partly due to lack of opportunity and resources. Teachers who pay attention to the conversational aspects of language can make up for that lack by providing frequent occasions for true conversation (not contrived question-and-answer) and by scaffolding use of decontextualized language and unusual vocabulary, that is, vocabulary not usually found in children's everyday talk. They will engage children in language activities (such as those that are part of the Language Experience Approach, Stauffer, 1970) that bridge the gap between highly contextualized, usually dialogue-like spoken language and highly decontextualized, monologue-like written language (Olson, 1977; Snow, 1983).

Meaning making in print often involves a disconnect between sender and receiver. Speakers and listeners share the same time and place; they help each other through the give-and-take of conversation to build shared meanings; they share a context that consists of their jointly occupied here-and-now and their jointly constructed discourse. This shared context serves as the foundation and the buttressing for the understandings they build together as their conversation evolves.

In contrast, writers are usually separated from readers. Written language must stand alone. A piece of writing must create its own context; typically its words specify for an often unknown, usually nonpresent, future reader what will be the understood, cre-
ated world of the text, the literary here-and-now. Of course, writers can't specify everything; readers bring assumptions to a text, and that is why no two readers understand a text in exactly the same way. Still, readers are much more “on their own” than listeners; whatever input they are going to get from writers is unalterable. It is limited to the words already on the page, whereas listeners can always ask for clarification, and they know that their conversational partner will have more turns, the content of which will be influenced by previous turns spoken by both parties to the conversation. (But note that Instant Messaging is an exception to this. It is a newly evolving form of written language that is much less de-contextualized because it occurs in real time and has a dialogue-like structure.)

Thus written language places a burden on writers to create text that can stand alone and on readers to find in that text a world (or context) that literally makes sense, that is, makes meaning possible. That is the bother of the disconnect. The benefit of the disconnect (without which the bother would not be tolerated) is that it makes possible new uses of language. That is, the decontextualized nature of written language also accounts for the unique written language functions mentioned earlier. A child who writes Dear Grandma, Can I have a Nintendo for my birthday? is using written language for one of Halliday’s seven functions, to satisfy his or her wants. But that child is also accomplishing another purpose, communicating over distance to someone not in his or her here-and-now. Decontextualized written language is useful for getting desired birthday presents from distant grandparents! Other written language functions that are not spoken language functions are served when Grandma writes Nintendo on her shopping list. Then the recording and reminding functions are served; it is as if the child repeats his or her request whenever and wherever Grandma reads her list. Children can engage in extended discourse—often much longer than their conversations—when they tell stories. Applebee (1978) documented the evolution of children’s concept of story. Just as important as the formal characteristics of traditional story grammars, such as characters, settings, events, goals, problems, resolutions, and reactions (Stein & Glenn, 1979), are the ways that storytelling serves social and cultural purposes in some children’s lives. Michaels (1981) described different styles in first graders’ sharing-time talk: African American children’s topic associating style, in which they told elaborate, lengthy, creative, and entertaining stories like those that are valued in their home culture, and white children’s topic-centered style, in which they gave short reports that kept to the point. The topic-centered style was preferred in the context of a first-grade sharing time:

The teacher’s schema for sharing, while having something in common with everyday notions of narrative structure and logical temporal sequencing, was far more restrictive. Her schema required that the account take the form of a simple statement and resolution centering on a single topic. Importance was attached, not to content per se, or to the sequentially ordered structure of a narrative, but rather, as in simple descriptive prose, to clarity of topic statement and explication. (p. 427)

Teachers who pay attention to children’s storytelling abilities will create opportunities for storytelling and pretend play that incorporate written language (Neuman & Roskos, 1992; Paley, 1990). They will equally value and encourage the topic associating language of storytelling that some children bring to school and the topic-centered language of essay-style telling and writing that others bring and that schools have traditionally privileged (Gee, 1990).

**Classroom implications**

Most, if not all, of what I have reviewed here is consistent with what educators have known for some time about predictors of children’s success in learning to read. Snow et al. (1998) identified two print-related factors and three language factors as strong predictors. The print-related factors are letter identification and concepts of print. The language factors are phonemic awareness, verbal memory for stories, and overall expressive vocabulary. In a similar way, Whitehurst and Lonigan (1998) emphasized three essential contributors to early reading and writing success: alphabet knowledge, phonological and phonemic awareness, and oral language ability.

Phonemic awareness is undoubtedly important to beginning reading and writing achievement. It deserves the attention it has received not just in recent Reading First legislation in the United States, but in research and pedagogical literature in the 14 years since Adams’s (1990) *Beginning to Read*. Phonemic awareness, however, is not the only aspect of phonological knowledge that contributes to written language learning; phonological knowledge is not the only knowledge about language forms that is important to written language learning (morphological, semantic, and syntactic knowledge also contribute); and formal knowledge is not the only language
knowledge that matters (knowledge and ability in such nonformal areas as functions of language, conversational mechanics, and storytelling also matter). I propose that long-term nurturing of language abilities and rich interactions involving language are key to promoting phonemic awareness and the other language abilities that, along with print abilities, predict literacy success.

Adams (1990) noted:

[H]e phonetic appropriateness [as opposed to the conventional correctness] of prereaders’ invented spellings is found to be predicted by their level of phonemic awareness and to predict their later success in learning to read words...

The evidence that invented spelling activity simultaneously develops phonemic awareness and promotes understanding of the alphabetic principle is extremely promising, especially in view of the difficulty with which children are found to acquire these insights through other methods of teaching. (p. 387)

Consistent with this, I have argued that invented spelling can be as accurate an assessment tool and as powerful an instructional vehicle for phonemic awareness as what is found in more structured, scripted phonemic awareness training programs (Richgels, 2001).

Meyer (1993) criticized scaffolding that is limited to the space of a single lesson, arguing instead that it is necessarily a long-term process.

[T]he metaphor of scaffolding is not that the teacher provides the scaffold while the student builds knowledge, but the teacher and student jointly place the scaffold and construct an outer structure of shared meaning. The scaffold is removed gradually, and the student completes the constructive process by assuming ownership and using the newly acquired knowledge. (p. 50)

This long-term view of scaffolding is consistent with what developmental linguists have documented in children’s spoken language development (e.g., Gleason, Hay, & Cain, 1989; Ninio & Bruner, 1978). I have defined written language learning routines that work in early literacy instruction over the course of an entire school year (Richgels, 1995). These can provide long-term scaffolding of a number of literacy understandings and skills, not just phonemic awareness (Richgels, 2003; Richgels, Poremba, & McGee, 1996). Dickinson and Sprague (2001) documented the rarity of conversation in kindergartens in their Home-School Study of Language and Literacy Development: “[T]he interactions of all kindergartners were not engaged in sustained audible conversation” (p. 270). Still, they also did find that conversations, when they occurred, were valuable: “We found two aspects of teachers’ conversations to be associated with end-of-kindergarten [language] assessments: their use of rare words and their ability to limit how much they said, and hence, listen to what children were saying” (p. 271).

Jordan, Snow, and Porche (2000) described a project that demonstrates that schools can promote a wide range of spoken language abilities that are predictive of literacy achievement by facilitating routine, rich social interactions over an extended period of time. Project EASE involved parents and children in home and school activities as part of five month-long units, each designed around a theme and supported by children’s books. The books were “selected because [their] content and text design offered lexical richness, extended discourse opportunities, and interesting ideas to talk about” (p. 529). Jordan et al. described “scripted activities” (p. 529) given to parents to support the units and to accompany the books, but scripted did not mean closed or limited. The activities “included scripted interactions and demonstrations of how to engage children in extended discussions surrounding a book” (p. 529). They promoted discussion and categorization, defined and described informational items centered on a single topic, and forged connections between related words by identifying defining and non-defining attributes. All activities were designed to foster receptive and expressive language abilities and provided opportunities for the occurrence of rare vocabulary items. (p. 529)

The five units were “Words...Words...Words...: A Vocabulary Unit,” “Once Upon A Time: A Storybook Unit,” “Cracking the Code: A Letter and Sound Unit,” “A Time to Remember: A Narrative Retelling Unit,” and “Talking About the World: A Nonfiction Unit.” For each of the five units, Jordan et al. (2000) listed components of a parent education session, at-school activities, at-home activities, and books used.

Pre- and posttesting of vocabulary, story comprehension, and sequencing in storytelling showed significantly greater gains by children in Project EASE than by controls. The researchers noted, “Particularly, those children who scored low on language measures at the beginning of kindergarten showed an impact of the intervention” (p. 539). They argued, “Because vocabulary knowledge, story comprehension, and story sequencing are precisely the language skills that relate most strongly to literacy accomplishments (Snow et al., 1994), the improvement on these measures strongly confirms the relevance of the intervention to improved reading outcomes” (p. 539).
I have reviewed research across a wide range of language domains in order to support a broad conceptualization of spoken language competence, one that sees as relevant to beginning literacy learning and teaching not just phonemic awareness, as important as it is, but also other formal and nonformal language knowledge. I see progress in the fact that nowadays a linguistic approach to early literacy instruction will more resemble Project EASE than Let's Read (Bloomfield & Barnhart, 1961).

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