

# THE DEVELOPMENT OF LANGUAGE, 6/e

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## Language and Literacy in the School Years

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**I**n the first few years of life, children master the rudiments of their native language. This remarkable achievement appears to require little conscious effort, and it occurs in a wide variety of contexts (Gallaway & Richards, 1994). By their third birthday, children have acquired a large and varied lexicon. They string together multiword utterances, participate appropriately in conversations, and make simple jokes. They even begin to talk about objects and events that are not present in their immediate context (Snow, Tabors, & Dickinson, 2001).

By the time children enter kindergarten, usually around age five, they have acquired a relatively sophisticated command of language, an accomplishment that has sometimes led researchers to believe that language development is essentially complete. However, major tasks still await the child, and developments that are as dramatic as those of the early years are yet to come (Nippold, 2000). This chapter will describe changes that occur during the school years. We will pay particular attention to two trends that are qualitatively different from earlier developments: The first is children's growing ability to produce connected multiutterance language as seen, for example, in their personal narratives. The second is children's evolving knowledge of the language system itself, reflected in their expanding metalinguistic awareness and in their acquisition of literacy (Hulme & Joshi, 1998).

Our focus on extended discourse and metalinguistic awareness is not meant to imply that development in other domains has abated. Quite the contrary, children continue to acquire greater expertise in the phonological (Vihman, 1996), semantic, syntactic (Kemper, Rice, & Chen, 1995; Leadholm & Miller, 1992), and pragmatic

(Ninio & Snow, 1996) aspects of language, as has been described in earlier chapters. Taking semantic development as an example, children's vocabulary continues to grow at a rapid rate during the school years (Anglin, 1993), with approximately three thousand new words added to their lexicon each year (Just & Carpenter, 1987). Parental input continues to be an important factor in children's vocabulary growth, with the density and context of sophisticated or rare words like *vehicle*, *cholesterol*, and *tusks* being a robust predictor of future vocabulary growth (Weizman & Snow, 2001). A significant portion of new words also comes from reading (Nagy, Herman, & Anderson, 1985; National Reading Panel, 2000), a finding that illustrates the importance of literacy, as well as the manner in which literacy interacts with ongoing language development.

Lexical development is also related to world knowledge (Crais, 1990), knowledge that in most children develops rapidly throughout the school years. Children who know more about a wide range of topics acquire new words more easily than children whose knowledge of the world is more limited. With the acquisition of new words, the breadth and depth of semantic knowledge also increases (Landauer & Dumais, 1997). And bringing the process full circle, the addition of new words to the child's lexicon is facilitated by the presence of an already rich lexicon (Robbins & Ehri, 1994). The dramatic growth of the lexicon throughout the school years should make it clear that the progress that was made in the early years continues. This progress serves as an important foundation for further growth and, in most instances, allows the child to acquire qualitatively new skills like reading and writing.

The chapter is organized topically. We look first at how children's interactions with peers and the media influence their language development. We then turn to a discussion of children's use of a form of multiutterance language termed *decontextualized language* or **extended discourse**. Extended discourse refers to multiutterance language that focuses on phenomena that are not immediately present (Snow, Tabors, & Dickinson, 2001). Examples of extended discourse include personal narratives and explanations. Next, we consider metalinguistics, knowledge of the language system itself. Children's awareness of the rule-governed nature of the language system evolves rapidly during the school years, and we will describe some of the developments of this period.

Metalinguistic awareness is an important component of literacy, our next topic. Literacy implies fluent mastery of reading and writing. We will describe how children acquire these important skills and what happens when they find reading difficult. Both metalinguistic awareness and literacy affect, and are affected by, children's ongoing cognitive development. Finally, we will examine children's experience with bilingualism during the school years.

The notion that language development is a life-span process is a guiding principle of this book. This chapter will bring us up to the threshold of adulthood, connecting the early years of language development described in the preceding chapters to the changes that occur during adulthood that are described in Chapter 11.

## Interactions with Peers and the Media

### On Their Own

For most children, early experiences with language occur with an adult, usually their mother or other primary caregiver. In the first years of life, the child has the advantage of interacting with a helpful and knowledgeable speaker. Where the child's linguistic skill is weak or incomplete, the parent can fill in, or *scaffold* (Bruner, 1983). However, as children mature, they are more likely to find themselves in the company of other children, where they must fend for themselves. Peer interactions represent true testing grounds for the young child's evolving communicative competence (Preece, 1992; Rice, 1992). In time, peer interactions can become more important than parent-child interactions (Harris, 1998; Whiting & Edwards, 1988). As children begin to enter the larger world, their language skills play a very important role in their social and cognitive development (Teasley, 1995).

In addition, as children enter adolescence, they use language to ally themselves with their peers, or in-group, and to exclude outsiders. Teenagers mark their group membership through the use of the **adolescent register**. Adolescent registers encompass a variety of linguistic features, including distinct phonological, semantic, syntactic, and discourse patterns (Gee, Allen, & Clinton, 2001; Beaumont, Vasconcelos, & Ruggeri, 2001; Nippold, 1993). For example, the adolescent register includes many unique slang terms (e.g., *chedda* meaning money, *da bomb* meaning the best, and *crib*, meaning home). Many of these terms are initially specific to particular eras, geographic regions, social and cultural classes, and are sometimes drawn from regional dialects or immigrant languages (Rampton, 1998). They are adopted more broadly by adolescents, change rapidly, and either fall out of fashion or become absorbed into the general lexicon (Romaine, 1984). Another current mark of the adolescent register is the nonstandard use of discourse markers such as *like* and *you know* (Erman, 2001; Siegel, 2002). For example, Erman (2001) found that adolescents, but not adults, employ *you know* to comment on or emphasize discourse as in "You're so stupid!" *You know* (emphasis in original, p. 1347).

### Language Play and Verbal Humor

One aspect of language use that is especially childlike is the propensity to play with language (Dunn, 1988). In the early school years, play with language represents a sizable portion of children's language. In one study, approximately one-quarter of all utterances produced by kindergarten children contained some form of language play (Ely & McCabe, 1994). Children treat language as they would any other object, as a rich source of material that can be playfully exploited (Garvey, 1977). All components of language are subject to manipulations, and spontaneous word play and rhyming



*“ . . . They’re icky. They’re slimy. They’re gooey.” Children may employ poetic devices to express their feelings of disgust.*

sometimes lead to the invention of new, often nonsense words. In the following example, a five-year-old child who clearly did not like bananas used repetition and partial rhyming to amplify her feelings of disgust:

Yuck I hate bananas.  
They’re icky.  
They’re slimy.  
They’re gooey. (Ely & McCabe, 1994, p. 26)

The almost poetic quality of this spontaneous utterance is echoed in children’s more explicit attempts at creating poetry. Ann Dowker (1989) asked young children to generate poems in response to pictures. One boy, aged five-and-a-half, produced the following lines in response to a picture of a snowy day:

It’s a latta with a peed,  
A plappa plotty plead.  
And there’s a wop,  
A weep,  
A stop.  
And yes. No.  
Sledge.  
Fledge. (Dowker, 1989, p. 192)

These excerpts show that children have a propensity to play with the phonological features of language. Recent work suggests that this phonological play may sharpen children's linguistic skills. For example, children's early exposure to certain playful forms of language like nursery rhymes correlates positively with their later development of literacy (Bryant, Bradley, Maclean, & Crossland, 1989). Classroom instructional practices take advantage of children's natural playful disposition by incorporating games as a way of teaching phonemic awareness (Adams, Foorman, Lundberg, & Beeler, 1997).

School-age children also display a great interest in riddles and other interactive language play. **Riddles** are word games, usually structured as questions, that are dependent on phonological, morphological, lexical, or syntactic ambiguity (Pepicello & Weisberg, 1983). To solve a riddle correctly children must have some insight into the ways that words can be ambiguous. In the following examples of riddles, the first plays primarily on morphological ambiguity, the second on syntactic ambiguity (phrase structure):

*Question:* Where did the King hide his armies?

*Answer:* In his sleeves.

*Question:* How is a duck like an icicle?

*Answer:* They both grow down.

Between the ages of six and eight, children display a heightened interest in riddles (McDowell, 1979). Spontaneous riddle sessions can involve many children, each shouting out riddles as challenges, and answering riddles in turn. Table 10.1 gives examples of how children responded to a riddle. Children's ability to solve riddles varies

**Table 10.1** Stages in Solving Riddles

*Target riddle: What dog keeps the best time? Answer: A watch dog.*

Level 0

Absent or minimal response: "I don't know."

Level 1

Illogical or negative attempt at explication: "Because dogs don't really have watches."

Level 2

Explanation focuses on the situation to which the language referred, not the language itself: "Because a watch dog is a kind of dog and also it keeps time."

Level 3

Incongruity is clearly attributed to the language itself: "Because, well, watch dogs are really dogs to watch and see if anybody comes in but watch dogs . . . It's a joke 'cause it's also another *word* for telling time."

Most six year-olds are at level 1; most eight and nine year-olds perform at level 3.  
(from Ely & McCabe, 1994)

with their knowledge of the genre itself and also with their metalinguistic development. Skill in solving riddles is also positively correlated with children's reading ability (Ely & McCabe, 1994). Thus, language play is a marker of children's developing mastery of the language system, and also a possible means of acquiring linguistic knowledge.

**Verbal humor** represents another form of language play. Humor is a universal feature of language and culture (Apte, 1985). To become full participants in the discourse of their community, children must become familiar with its basic forms of humor. Children's ability to both produce and appreciate verbal humor develops over time and is closely associated with their growing mastery of all aspects of language. Younger children, who have a limited appreciation of the social and situational aspects of language, are more likely than older children to find simple scatological utterances like "poo-poo head" humorous. Older children are less amused by such simple pragmatic violations and are more likely to focus on the semantic and syntactic manipulations found in conventional jokes and puns. At a later stage, adolescents are similar to adults in their comprehension and production of verbal humor, including the use of irony and sarcasm (Dews et al., 1996), as was described in Chapter 4.

## Verbal Aggression

There is much overlap between verbal humor and **verbal aggression**. Just as children can be playful, they can be cruel (Sluckin, 1981). Children intermingle verbal humor and verbal aggression to establish, maintain, and reorder social hierarchies (Goodwin, 1990; Labov, 1972). In a study of classroom discourse in grades one through seven, more than 27 percent of children's utterances contained some form of verbal aggression. Verbal aggression included reprimands, harsh commands and insults ("Hold this, you jerk"), tattling ("Aaron said 'shut up' again"), rejections ("You're not my buddy, Ethan"), and criticisms (McCabe & Lipscomb, 1988). Boys were proportionally more verbally aggressive than girls, with fifth-grade boys being the most verbally aggressive; fully 40 percent of their utterances included verbal aggression.

Some forms of verbal aggression are highly structured and ritualistic. *Sounding, playing the dozens, or dissing* is an activity that is found predominantly among adolescent African American males (Labov, 1972; Morgan 1998), although similar behavior has been documented in female and mixed-sex groupings (Goodwin, 1990). Many of the insults are explicitly sexual; however some employ nonsexual imagery (Fox, cited in Morgan, p. 269, 1998; Labov, 1972, pp. 312, 319), as in the following examples:

That's why your mother is so dumb: She was filling out a job application and it said "Sign here." And she put "Aquarius."

Your mother so skinny, she do the hula hoop in a Applejack.

Your mother play dice with the midnight mice.

Ritual insults build upon preceding utterances, with the goal being to outwit one's opponent by generating an insult that cannot be topped. One study of elemen-

tary school children found that frequent engagement in sounding was associated with better comprehension of figurative language (e.g., metaphors) (Ortony, Turner, & Larson-Shapiro, 1985). Unlike the verbal aggression found frequently in the speech of school-age children, most adults go out of their way to mark their speech as nonaggressive (Deese, 1984). Thus, frequent use of verbal aggression may be a developmental stage through which many children pass on their way to becoming more circumspect adults.

## Influence of the Media

School-age children spend an extraordinary amount of their out-of-school time watching television (Wright et al., 2001). There is evidence that children can and do learn some language, especially vocabulary, from viewing (Rice & Woodsmall, 1988), and exposure to educational shows like *Sesame Street* can affect children's literacy development positively (Wright et al., 2001).

Critics of children's television believe that high levels of viewing displace more intellectually demanding activities like reading and may affect later school performance (Singer & Singer, 1990). Although there are data that support such a position (Huston, Wright, Marquis, & Green, 1999), the relationship between TV viewing and educational and literacy activities is complex (Huston et al., 1999; Wright et al., 2001). For example, in comparison with young children who watched general audience programs (e.g., sitcoms), young children who watched informational and educational programs scored higher on measures of prereading skills and receptive vocabulary three years later. High levels of exposure to informational and educational television were also positively correlated with time spent reading and engaged in other educational activities (e.g., art, music, puzzles) (Wright & Huston, 1995). Thus, it is not just the amount of time spent watching television but the nature of the programming watched that is key to understanding television's effects on language and literacy development.

## Gender Differences

In Chapter 6 we saw that children as young as two or three begin to develop *genderlects* or special ways of talking associated with their gender. During the school years, gender differences in some domains become more noticeable (Berko Gleason & Ely, 2002). The self-segregation by gender that begins in the preschool years often continues through adolescence, and researchers have noted differences between girls' social groups and boys' social groups (Maccoby, 1998). There are also some differences in the language of boys and girls, although researchers are not in agreement about the possible origins of gender differences. With several notable exceptions, there is little evidence that there are major biological differences underlying boys' and girls' typical language differences. Since differences between boys and girls in basic verbal abilities are small (Hyde & Linn, 1988), differential *ability* is unlikely to be responsible for the

kinds of gender differences in language use that have been observed. Most of the gender differences that do exist in boys' and girls' language are more likely to be the product of socialization and context than the result of innate biological differences.

Adults have a strong influence on children's development of genderlects. Parents, especially fathers, may play an especially important role in the early years (Fagot & Hagan, 1991; Perlmann & Berko Gleason, 1994). However, during the school years, other adults, including teachers, begin to affect children's acquisition of genderlects. For example, teachers may (unknowingly) react in gender-specific ways to classroom rule violations by responding positively to boys who call out (interrupt) without raising their hands but criticizing girls for the same behavior (Sadker & Sadker, 1994).

Beyond the pervasive influence of linguistic socialization by adults, children influence one another, and this peer socialization becomes more important during the school years. Furthermore, because of self-segregation by gender, peer socialization is likely to occur within same-sex groups, where, according to some theorists, boys and girls have different interactional goals: Girls seek affiliation and boys pursue power and autonomy (Ely, Melzi, Hadge, & McCabe, 1998; Thorne & McLean, 2002). There is evidence that in same-sex friendships, middle-class adolescent girls do show a strong preference for sharing conversation (Aukett, Ritchie, & Mill, 1988), and in these conversations adolescent girls are more likely than boys to talk about emotions and feelings (Martin, 1997). However, in analyses of conversations between teenagers, Goodwin (1990) found that urban African American girls were as likely to compete as they were to cooperate and were as interested in justice and rights (supposedly male concerns) as they were in care and responsibility.

Gender differences have been found in several other domains of language during the school years. For example, boys swear more than girls (Jay, 1992; Martin, 1997) and, as noted earlier, are more verbally aggressive (McCabe & Lipscomb, 1988). Although it long had been believed that boys used more slang than girls, recent evidence reveals that girls are as proficient in their use of taboo or pejorative language as are boys (de Klerk, 1992). In their personal narratives, girls are more likely than boys to quote the speech of others (Ely & McCabe, 1993). This attention to language itself appears to carry over to achievements in literacy. Girls on average score higher than boys in measures of reading, writing, and spelling, and these differences persist through high school (Allred, 1990; Grigg, Daane, Uin, & Campbell, 2003; Hedges & Nowell, 1995; Mullis, Martin, Gonzalez, & Kennedy, 2003). It is important to recognize that these gender differences in performance may be due in part to gender differences in attitudes toward literacy. For example, some boys view reading and writing as quiet, passive activities with little intrinsic appeal. Some boys also consider the content and subject matter of many reading and writing tasks in school to be more suitable for girls than for boys (Swann, 1992).

There are two gender differences that do have strong biological ties. First, with puberty, the size of boys' vocal tracts undergoes rapid change, leading to characteristic

*voice cracking*. Postpubescent males have longer vocal cords than postpubescent females, giving adolescent and adult males the ability to speak at lower fundamental frequencies (Tanner, 1989). However, biology appears to play a lesser role in sex differences in voice pitch than would be predicted by the anatomical differences alone. Mattingly (1966) found that differences in pitch were as much stylistic, reflecting linguistic convention, as they were based on differences in vocal-tract size. As anyone who has ever taken voice lessons knows, individuals have some control over where they “place” their voice. In our gender dimorphic society, males place their voices low and females place their voices high, thus exaggerating biologically determined differences.

The second area in which a gender difference appears to have a strong biological basis is in the incidence of language disorders, particularly developmental dyslexia (impairment in learning to read; see “When Learning to Read Is Difficult,” p. 420). The reported incidence of dyslexia is much greater in boys than in girls, with ratios varying between 2:1 and 5:1; however, some of this difference may be due to referral bias (Shaywitz, Shaywitz, Fletcher, & Escobar, 1990). Possible biological reasons for sex differences in the incidence of reading disabilities include differences in brain lateralization and organization (see Chapters 1 and 11).

## Extended Discourse

Much of children’s earliest speech is embedded in the immediate conversational context; it revolves around the child’s needs and wants. Conversation for the sake of conversation is uncommon, as is talk about people, objects, and events that are not part of the current context. However, as children get older, they increasingly find themselves in situations in which they are speaking to conversational partners (e.g., peers, teachers) who may lack shared knowledge. In these settings, children need to learn to talk about themselves and their pasts in ways that are comprehensible and meaningful. In school settings, children are asked to describe phenomena that are not immediately present, like what they did while on vacation, or why birds migrate. In telling personal narratives about the past and in providing explanations, children are using **extended discourse** or *decontextualized language*. This is language that refers to people, events, and experiences that are not part of the immediate context (Snow, Tabors, & Dickinson, 2001).

Extended discourse can express two quite distinct modes of thought, the **paradigmatic mode** and the **narrative mode** (Bruner, 1986). The paradigmatic mode is scientific and logical, and the language of paradigmatic thought is consistent and noncontradictory. Many upper-grade classroom assignments, such as presentations in science courses, require children to think and write paradigmatically. In contrast, the narrative mode of thought focuses on human intentions. The language of narrative thought can be more varied, reflecting both the content of the story and also the style

of the storyteller. In general, children develop some level of mastery of both modes of thought, although the respective balance varies according to the child's culture, exposure to school, and individual circumstances.

## Narratives

**Narratives** are stories, usually about the past. Some researchers define narratives (or a minimum narrative) as containing at least two sequential independent clauses about a single past event (Labov, 1972). Personal narratives are stories about personal experiences, often describing firsthand experiences of the storyteller. Through the telling and sharing of narratives, narrators (children and adults alike) make sense of their experiences.

The following example is part of a longer narrative told by a boy, almost four years old. He had been prompted by his mother to describe a recent visit to a fire station. Although the initial focus of the narrative was on what he saw (fire tools, a steering wheel), the key point of the narrative describes what the storyteller described as a "mistake."

But you know what I didn't . . . that was not, that I, that I think was a mistake for him to do.

He let me wear the big heavy fire hat.

But that was a mistake. Because when we got home I was, I was crying.

And my eyes were starting to hurt.

And actually my head hurt.

And my, actually my hand and arm and elbow hurt.

I was so sick when I got home.

In this narrative, the child has given linguistic expression to past events. He cites the wearing of a heavy fire hat as the cause of his illness and does so as part of a story. Following his narrative, his mother provided a paradigmatic explanation for what "really" happened. In her explanation, she used the word "associated" in its logical and scientific sense, to make clear that one event (wearing the fire hat) was temporally but not causally connected to another (the child's illness).

Interest in the development of children's narratives has grown in recent years (Bloome, Champion, Katz, Morton, & Muldrow, 2001; Bamberg, 1997; Berman & Slobin, 1994; Engel, 1995; Fivush & Hudson, 1990; McCabe & Peterson, 1991). During the school years most children master the ability to tell coherent narratives. Development proceeds from single-utterance narratives produced by children as young as twenty-four months to novella-length personal stories shared between adolescents.

In addition to an age-related increase in length, a number of other aspects of narratives shows developmental change. For example, there are changes with age in the overall structure of narratives. Narrative structure has been analyzed from a variety of perspectives, including story grammar (which focuses on the structural elements and

problem-solving aspects of stories; Mandler & Johnson, 1977; Stein & Albro, 1997), stanza analysis (which uses the notion of lines and groups of lines, or stanzas; Gee, 1986; Hymes, 1981), and high-point analysis (Labov, 1972; Peterson & McCabe, 1983). In high-point analysis, the classic story builds up to a high point that is then resolved. In addition to describing what happened (a process termed *reference* by Labov), classic high point narratives include *evaluation*, the narrator's attitude about what happened.

In a study of a large corpus of personal narratives from children between the ages of four and nine, Peterson and McCabe (1983) found a number of age-related changes. Using high-point analysis, they found that the structure used most frequently by the youngest children (the four-year-olds) was the *leap-frog narrative*, in which the child unsystematically jumps from one event to another, often leaving out important points and causal and temporal connections. The following is an example of a leap-frog narrative from a four-year-old girl (Peterson & McCabe, 1983, p. 72):

- Experimenter:* Have you ever been to Oberlin or Cleveland, any place like that?
- Child:* I been, been to, to Christ Jovah's right there.
- Experimenter:* You've been where?
- Child:* Christ Jovah's house. Sometimes.
- Experimenter:* And?
- Child:* I just said, I, I said, Hi, hello, and how are you? And then, and then, they go to someplace else, and then, and then I had a party, with, with, with, with candy and . . . hmm . . . my, and my, um, I don't know.
- Experimenter:* And you what?
- Child:* I don't know what I did. I *sure* had a party.

Another common structure that was used by children between the ages of four and eight was the *chronological narrative* that takes the form of recounting a sequence of events ("and then . . . and then"). The most mature form of narrative, according to high-point analysis, is the *classic narrative* in which events build to a high point, are briefly suspended and evaluated, and then resolved. Classic narratives were relatively uncommon in four-year-olds, but made up about 60 percent of the narratives of eight- and nine-year-olds. The following is a classic narrative from an eight-year-old boy (the high point is in bold type):

You know Danny Smith? He's in third grade, you know, and when he was doing jumping jacks in gym, you know, his pants split and in class you know his teacher said, "Danny Smith, what are you doing?" He said, "I'm trying to split my pants the rest of the way." It was only this much, and he had it this much in class. **On the bus he was going like this, you know, splitting it more, and he was showing everybody.** We told Danny he was stupid, and he said, "No, I'm not. You guys are the stupids." (Peterson & McCabe, 1983, p. 236)

Evaluation is another important feature of high-point analysis. Evaluation describes how the narrator feels about the events being depicted and can be expressed in a number of ways, including compulsion words (*have to, must*), affect terms (*scared, funny*), and negatives (events that did not happen: *He didn't hit me.*) (Peterson & McCabe, 1983, p. 223). Children use a greater variety of evaluations with age (Peterson & Biggs, 2001; Peterson & McCabe, 1983). A continued emphasis on evaluation also marks the development of narratives through adolescence. In comparing narratives from preadolescent, adolescent, and adult African Americans, Labov (1972) found that evaluations increased threefold from preadolescents to adults. Interestingly, a control group of white adolescents produced narratives with rates of evaluations similar to those of the younger African American preadolescents, highlighting how narrative forms vary across cultures, a topic to which we now turn.

### Narratives across Cultures

Structural analyses that employ high-point or story-grammar perspectives may implicitly suggest that there is a universal standard for narrative form. However, examination of the personal narratives of children and adults from diverse cultures suggests that each culture has its preferred ways of telling stories (Bloome et al., 2001; McCabe, 1996) and that the preferred way of telling stories varies from culture to culture. For example, Latino children's narratives focus on personal and family relationships rather than on what happened (Rodino, Gimbert, Pérez, & McCabe, 1991). Japanese children connect temporally distinct events thematically, often using a structure that reflects haiku, a culturally valued literary form (Minami & McCabe, 1990).

There is currently much theoretical and empirical support for viewing narratives as important social, cognitive, and linguistic tools for understanding and defining one's culture and one's world (Bruner, 1986; Gee, 1992). Children typically adopt the narrative style of their own community. Thus, many middle- and working-class European-American children in North America generally tell **topic-focused narratives**, stories about a single person or event that have clear beginnings, middles, and ends. These stories often conform to the structure of classic high-point narratives.

In contrast, children from other cultures, working-class African American girls, for example, sometimes tell what are termed **topic-associating narratives** (Michaels, 1981, 1991). Topic-associating narratives link several episodes thematically, and the episodes may involve several principal characters and shifts in time and setting. These narratives are usually longer than topic-focused narratives. Sara Michaels (1981, 1991) has documented what can happen in school when children tell stories that do not follow the conventional topic-focused formula. A topic-associating first-grade African American girl was told by her teacher that she should talk "about things that are really, really very important," and "to stick with one thing" (Michaels, 1991, pp. 316, 320). The way this girl usually made sense of her world through her personal narratives was explicitly discouraged, and she was urged to adopt a narrative style that conformed to

the dominant (topic-focused) genre of the classroom. Although there is nothing intrinsically wrong with teaching students to use different speaking genres, a teacher's implicit devaluation of the narrative style of a child's indigenous culture may have negative consequences (Champion, Katz, Muldrow, & Dail, 1999; Mainess, Champion, & McCabe, 2002; McCabe, 1996). In a follow-up interview one year later, the African American child angrily portrayed her first-grade teacher as uninterested in what she had to say. Because this experience occurred early in her educational experience, its influence on her attitude toward teachers, school, and literacy was potentially profound (Ogbu, 1990). Many researchers now see a need for educators to recognize these potential conflicts and to provide educational environments that can nurture cultural and linguistic diversity as well as academic achievement (Champion et al., 1999; Gutierrez, 1995; Michaels, 1991). The need to recognize the cultural diversity of narratives extends to counseling clinicians, who, regardless of their own ethnicity, are more likely to perceive signs of psychopathology in the personal narratives of healthy African American and Latino American children than in the personal narratives of healthy European American children (Pérez & Tager-Flusberg, 1998).

### Other Forms of Extended Discourse

The ability to narrate well and to use other forms of extended discourse is also an important precursor to literacy (Snow, Tabors, & Dickinson, 2001). Written language is itself decontextualized, often making reference to phenomena that are not part of the immediate context. Thus, the development of decontextualized language skills has important educational implications.

In addition to narratives, other forms of extended discourse include explanations and descriptions. Explanatory talk is an important part of classroom discourse and college lectures (Beals, 1993; Lehrer, 1994). Children's initial experiences with explanatory talk are likely to occur in the home, where parents may use explanations as a way of conveying knowledge about how the world works. In the following example, a father moves beyond the immediate context (the family dinner) to impart knowledge about the world, about how rivers flow into lakes (Perlmann, 1984).

- Child:* Who's that spoon?  
*Father:* That is the gravy spoon. All the juice from the meat runs into that little hole, you spoon it out.  
*Child:* Isn't that running in?  
*Father:* Well, it was running in. See all these little holes in the tracks down here.  
*Child:* Yes.  
*Father:* When you cut the meat, the juice runs out of the meat into that little track there. Runs down till it gets to that hole. Blu-up! Fills it right up. [Pause]. That's the way rivers and lakes work.

Teachers are often very explicit in their encouragement of extended discourse. In first-grade classrooms, teachers have been noted to elicit explanations about objects (e.g., candles, board games) children had brought to sharing time by saying, “Pretend we don’t know a thing about candles,” or, “TELL us how to play. Pretend we’re all blind and can’t see the game” (Michaels, 1981, 1991). Exposure to extended discourse in both home and preschool settings predicts competence in a number of skills important to the acquisition of literacy (Beals, 2001; Tabors, Roach, & Snow, 2001; Tabors, Snow, & Dickinson, 2001).

The kind of extended discourse encouraged in sharing time (i.e., narratives and explanations) has much in common with what has been termed the *referential communication paradigm*, in which a speaker is asked to communicate about an object that is not in view of the listener (Ricard, 1993). In this situation, effective communication requires the speaker to be clear and unambiguous about anaphoric reference (e.g., pronouns like *she* and *they*) and to avoid using inappropriate deictic terms (e.g., *this*, *that*). A study by Cameron and Wang (1999) illustrates the referential communication paradigm. They asked children between the ages of 4- and 8-years-old to tell a story based on a wordless picture book to an adult, either in person or over the phone. Children told longer and more elaborate stories and made more revisions and corrections (an index of monitoring for listener comprehension) when narrating over the phone than when narrating in person. In general, performance in referential communication tasks develops incrementally over the school years (Lloyd, Mann, & Peers, 1998).

## Metalinguistic Development in the School Years

Throughout the school years children continue to acquire new words at a rapid rate (Anglin, 1993), as noted earlier. They learn to master ever more complex syntactic structures (Chomsky, 1969; Karmiloff-Smith, 1986; Nippold, 2000), and, as we have just seen, they learn to use a variety of genres of extended discourse. However, rapid unfolding of **metalinguistic awareness** is an especially notable characteristic of language development during the school years. As we saw in Chapter 4, metalinguistic awareness is knowledge about language itself.

For the young child, language is a transparent medium. In using language, children need not have conscious awareness of its complex rule-governed nature. In time, however, some aspects of the system become opaque (Cazden, 1976), perhaps as a result of the child’s active exploration of the system through language play (Kuczaj, 1982). In addition, ongoing cognitive development influences children’s understanding of the linguistic system (Doherty, 2000; Karmiloff-Smith, 1987), as does exposure to literacy (Purcell-Gates, 2001).

At the most basic level, a precursor of metalinguistic awareness is seen in children's corrections of their own speech (Clark, 1978). However, the awareness that underlies self-correction does not necessarily include a conscious understanding of the language system itself; self-correction shows only that the child recognizes ideal models or rules and notes implicitly a discrepancy between her linguistic behavior and the model or rule. True metalinguistic awareness requires that knowledge of the language system be explicit. For example, Bialystok (1991) found that nonreading preschool children who knew the letters of the alphabet and who knew the sounds associated with them had no explicit knowledge that the letters *represented* the sounds, and thus did not have true metalinguistic awareness.

### Metasemantic and Metasyntactic Awareness

As described in Chapter 4, metasemantic knowledge evolves slowly over the school years. Children come to understand that words are basic units of the language system and that the relationship between the phonological constituents of words and their referents are arbitrary (Bowey & Tunmer, 1984; Homer & Olson, 1999). By age ten, children have acquired a clear understanding of the use of the term *word*. At this same age, children are able to provide formal definitions of words through the use of the copula and a superordinate relative clause (e.g., "a bird is a kind of animal that likes to fly") (Kurland & Snow, 1997; Snow, 1990; Snow, Cancini, Gonzales, & Shriberg, 1989). Defining words in this manner is a regular part of classroom discourse, and skill in producing formal definitions is positively correlated with overall language ability and with reading (Snow et al., 1989; Tabors, Snow, & Dickinson, 2001).

*Metasyntactic awareness* is sometimes assumed to underlie children's ability to correct syntactic errors. Five-year-old children can correct ungrammatical sentences, but often their corrections reflect their propensity to correct the deviant *semantic meaning* created by the syntactic errors. When young children are asked to correct the syntax, but not the semantic meaning, of sentences that are both syntactically *and* semantically deviant (e.g., *The baby eated the typewriter*), their rates of failure are relatively high (Bialystok, 1986).

Metasyntactic awareness also includes an understanding of syntactic structure. Ferreira and Morrison (1994) studied children's developing knowledge of sentence structure. They found that even before formal schooling, five-year-olds can identify the subject of a sentence like, "The mailman delivered a shiny package" about 80 percent of the time. In general, schooling may be the single most important source of explicit knowledge about syntax, since talk about terms like *subject* and *verb* is extremely rare outside of educational settings. In reviewing the evidence on metasyntactic development, including a classic cross-cultural study by Scribner and Cole (1981), Gombert (1992) argued that explicit syntactic awareness comes only through formal education in literacy skills.

## Metapragmatic Awareness

Metapragmatic awareness includes an awareness of the relationship between language and the social context in which it is being used (Hickmann, 1985; Ninio & Snow, 1996). Common examples of metapragmatic awareness include the ability to judge referential adequacy, the ability to determine comprehensibility, and the ability to describe *explicitly* the social rules (e.g., politeness rules) governing language use.

In judging referentially inadequate messages, children five and under often blame the listener *who should have listened better*, not the speaker, for communicative failure. After age eight, children are able to identify the speaker as the source of the problem (Robinson, 1981). Similar age trends were found in a study by Hughes and Grieve (1980), in which children were asked bizarre questions like, “Is red heavier than yellow?” or “Is milk bigger than water?” Beyond metaphorical interpretations, these questions require clarification of the speaker’s intended meaning. Yet very few five-year-old children asked for clarification. Instead, they attempted to answer the question in a straightforward manner. By contrast, most seven-year-olds gave responses that reflected their uncertainty about the speaker’s intended meaning (e.g., “Milk is heavier, isn’t it?”).

Metapragmatic awareness requires more than knowing how to use language in culturally appropriate ways. Children must be able to articulate the rules explicitly. In spite of the observation that younger children frequently fail to follow the social norms of language use, for example, by being verbally polite (Bates, 1976; Berko Gleason, 1973), there are some anecdotal accounts of young children’s awareness of these same rules. In one such example, a kindergarten girl chastises her classmate for nagging (Ely & Berko Gleason, 1995, p. 267):

- Mark:* Can I pick up the turtle, John?  
*Teacher:* Not right now.  
*Mark:* Please, John.  
*Allison:* No nagging. When, when he [Mark] keep telling him [the teacher] and telling him, that’s nagging.

By late childhood and early adolescence, most children have a fairly solid understanding of the rules governing language use in everyday social contexts (Berko Gleason, Hay, & Cain, 1988). In fact, one feature of the adolescent register is the occasional conscious and explicit violation of pragmatic rules. Thus, the failure to exchange conventional greetings or to offer verbal thanks, particularly in settings with parents, may be more a way that adolescents linguistically mark their autonomy and independence than a sign of developmental delay.

Thus far we have described how children’s interactions with their peers and the media influence language development. We have described several forms of extended discourse and have seen how children acquire some knowledge of the language system itself. Many of these developments are relatively independent of school attendance. At this point, however, we narrow our focus in order to describe what happens to chil-

dren living in literate societies, particularly English-speaking children in North America, as they learn to read and write.

## Literacy Experiences at Home

Children growing up in literate societies are exposed in varying degrees to literacy in their homes and in their communities, and this exposure can be an important introduction to formal literacy instruction. Children's earliest awareness of the function and form of literacy has been termed **emergent literacy** (Purcell-Gates, 2001; Teale & Sulzby, 1986; Whitehurst & Lonigan, 2002). Young children are able to recognize **environmental print** on road signs (e.g., STOP) and in familiar commercial logos (e.g., Coca-Cola and McDonald's). They also acquire some of the conventions of print, including, for example, that in written English reading proceeds from left to right, and from top to bottom, and that printed words are separated from one another by spaces.

While children are learning about the forms of literacy, they are also being exposed to some of the functions literacy serves. Although form is relatively standard across communities of English speakers (reading always proceeds from left to right), there is much greater variation in the functions of literacy. Thus, in some homes literacy may be valued and emphasized. Children growing up in homes like these may frequently encounter their parents and older siblings engaged in reading and writing for work or recreation and may themselves be read to extensively. Children growing up in homes where literacy serves exclusively instrumental functions (e.g., reading bills and school notices; writing checks and grocery lists) may develop very different notions about its worth (Gee, 2002; Heath, 1983; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991; Tabors, Roach, & Snow, 2001).

In addition, parents vary in the degree to which they actively encourage the development of emergent literacy (e.g., Hammer, 2001; Sénéchal & Le Fevre, 2002). Parents who frequently engage their children in literacy-related activities (alphabet games, book reading) prepare them well for learning to read and write. This kind of focus on literacy also communicates that competence in reading, writing, and extended discourse are socially and culturally valued activities. Children from these households are at a distinct advantage upon entering school, where there is much continuity between the focus on extended discourse at home and the dominant and valued decontextualized discourse of the classroom. Children who are not exposed to these types of preliteracy experiences are often at a severe disadvantage when they enter school (Baker, Serpell, & Sonnenschein, 1995; Gee, 2002; Heath, 1983; Michaels, 1991; Snow, Burns, & Griffin, 1998).

The degree to which home environments support literacy is of great interest, both from a theoretical and a practical perspective (Dickinson & Tabors, 2001; Whitehurst & Lonigan, 1998). For example, shared book reading between parents and children has long been held to be a very important introductory step to literacy (Bus,



*Shared bookreading between parents and children is an important introductory step to literacy.*

2002; Goldfield & Snow, 1984). Shared book reading is not only an opportunity to gain knowledge about the conventions of print, it is also an opportunity for extended discourse that is stimulated by the material being read. In addition, children's exposure to shared bookreading can be an important influence in the development of positive attitudes towards literacy (Baker, Scher, & Mackler, 1997).

Different styles of interaction are associated with different long term effects, with the best outcomes across a variety of measures being associated with an interactive, dyadic, or collaborative approach in which the child's verbal participation is encouraged (Haden, Reese, & Fivush, 1996; Reese & Cox, 1999; Sénéchal, 1997; Whitehurst et al., 1994). Using an experimental design, Reese and Cox (1999) assessed three different styles of book reading: a *describer style* in which the parent provides description and encourages labeling, a *comprehender style* in which meaning, inferences, and predictions are stressed, and a *performance style*, in which the story is read in its entirety,

although it is preceded by comments and followed by prompts regarding inferences and evaluations. Overall, the describer style produced the greatest gains in vocabulary and print skills, but outcomes were dependent on children's initial skill levels. For example, children with initially strong vocabularies benefitted more from the performance style.

Dramatic social class differences in exposure to shared book reading have been documented: Working-class children typically experience only a fraction of the number of hours of shared book reading that middle-class children experience (Payne, Whitehurst, & Angell, 1994). Although the difference in the frequency of exposure to book reading may explain a portion of the observed social class differences in the acquisition of literacy skills, other factors, including socioeconomic factors and the attitude and skills of preschoolers themselves, may also be important (Scarborough & Dobrich, 1994).

Children from economically disadvantaged homes are at greater risk for failing to acquire basic literacy skills (Snow et al., 1998). Of course, many children from economically disadvantaged homes do learn to read and write well. Snow and her colleagues (1991; Dickinson & Tabors, 2001) have been examining the relationship between the home environment and children's acquisition of literacy skills in a longitudinal study of ethnically diverse working-class families. They found that the quality of the parent-child relationship was predictive of the child's writing ability, with good relationships being positively associated with children's ability to write well. Reading comprehension appeared relatively unrelated to any of the home measures. Reading was more strongly associated with school factors such as practice with structured materials like workbooks. They note that literacy practices such as reading at home should be encouraged, and that for children, time with adults, as opposed to time with siblings and peers, is important (Snow et al., 1991).

More recent results echo these earlier findings (Dickinson & Tabors, 2001). For example, the amount of extended discourse at home, the density of rare or sophisticated words in home conversations, and parental support for literacy activities (e.g., book reading) at age four, predicted to varying degrees a number of kindergarten language and literacy skills including narrative production, emergent literacy (e.g., knowledge of the conventions of literacy, letter names), and receptive vocabulary even when controlling for important demographic variables (family income, mother's education) (Tabors, Roach, & Snow, 2001). However, preschool environments (including extended teacher discourse, classroom curriculum, and classroom exposure to rare words) were even better predictors of many of these same skills (Dickinson, 2001). One of the more compelling findings was that children who were exposed to optimal language and literacy experiences at home but had poor preschool experiences performed below average on the kindergarten language and literacy measures. In other words, the better than average home environment was not enough to buffer the adverse effects of a poor preschool environment. However, children from homes where language and literacy experiences were below average but who had optimal preschool experiences performed

above average on the kindergarten measures (narrative production, emergent literacy, and receptive vocabulary). These findings emphasize the important role preschools can play in ameliorating later academic outcomes, especially for children from low-income households (Tabors, Snow, & Dickinson, 2001, p. 330).

## Reading

### Components of Reading

Reading is a complex process. It involves a number of components that in the skilled reader work together in a seamless fashion, so much so that written text appears to convey meaning almost automatically. Table 10.2 lists some of the major components that underlie skilled reading.

### Letter Recognition

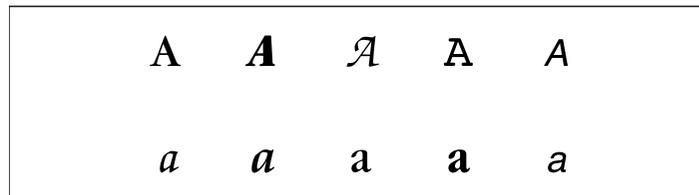
The first component involves detection of the features of the letters of the alphabet, leading to **letter recognition**. Texts come in a variety of different forms, from highly regular and readable print to highly variable and barely legible handwritten script. Even standard print takes a variety of forms, so that dramatically different typefaces or fonts produce different graphic patterns. In order to identify a letter correctly, the reader must be able to extract its defining features. For example, the letter *A* can appear in many forms (see Figure 10.1). It is important to stress that even in skilled readers, each letter of a word is recognized, although processing is very rapid (Rayner, Foorman, Perfetti, Pesetsky, & Seidenberg, 2001).

### Grapheme-Phoneme Correspondence Rules

An understanding of the **alphabetic principle** and knowledge of **grapheme-phoneme correspondence rules** are critical components in reading a language like English. Ac-

**Table 10.2** Components of Skilled Reading

- Detection of visual features of letters leading to letter recognition
- Knowledge of the grapheme-phoneme correspondence rules
- Word recognition
- Semantic knowledge
- Comprehension, interpretation



**Figure 10.1**

*Letter detection requires recognizing many different graphic forms: Some forms of the letter A.*

cording to the alphabetic principle, letters of the alphabet represent the sounds of oral language. **Graphemes** are the actual graphic forms or elements of the writing system, the letters of the alphabet, for example. As noted in Chapter 3, phonemes are the basic sounds of a language. Thus grapheme-phoneme correspondence rules define the relationship between a letter, or combination of letters, and the sound they represent.

In a perfect alphabetic system, grapheme-phoneme correspondence rules would have three characteristics:

1. They would be simple: there would be a one-to-one correspondence between each symbol and each sound.
2. They would be transparent: the name of a grapheme and the sound it represents would be identical.
3. They would be completely regular: there would be no exceptions to the two features listed above.

Orthographic systems with nearly perfect one-to-one grapheme-phoneme relationships are termed **shallow orthographies**. Italian represents an example of a shallow orthography, and readers of Italian can use spelling as a reliable guide to pronunciation and pronunciation as a reliable guide to spelling (Perfetti, 1997). In contrast, English is considered a **deep orthography** in that the relationships between graphemes and phonemes are more variable. For example, the letter *i* sometime sounds like itself, as in the pronoun *I*. However, it can also represent many other sounds, including the /I/ of *bit*, the /iy/ of *radio*, and so on. Furthermore, graphemes represent abstract forms, phonemes, whose actual phonetic form varies according to the other speech sounds (phonemes) with which it is combined.

To achieve fluency in reading English, the child must master these and other irregularities of the grapheme-phoneme correspondence rules (Byrne & Fielding-Barnsley, 1998). This task is particularly difficult because **segmentation** or breaking words into their constituent phonemes is not a straightforward or intrinsically intuitive skill. For example, a simple three-letter, one-syllable word like *cat* is composed of three

distinct phonemes /k/, /æ/, and /t/. Although some children gain awareness of segmenting through informal instruction and exposure to texts like nursery rhymes (that often highlight segmenting through rhymes; Bryant, MacLean, & Bradley, 1990), many children require formal instruction before acquiring explicit knowledge of phonemic segmentation (Byrne & Fielding-Barnsley, 1995).

## Word Recognition

The recognition of letter strings as representing conventional words in the orthography of the language defines the next component of reading, **word recognition**. Many laboratory studies of word recognition compare subjects' response time in recognizing different classes of words or letter combinations. True words (e.g., *king*) are words that follow the orthographic conventions of the language and are part of the language. Nonsense words are words that do not exist in the language (e.g., *gink*), although they are possible words because they follow conventional orthographic rules. False words are words that violate the orthographic rules (e.g., *nkgi*) and would be unlikely to be found in the language. In these *lexical decision tasks*, true words are recognized more rapidly than nonsense words or false words.

## Semantic Knowledge

Most of the time the word that is read is a word that is known to the reader. Its recognition stimulates a number of possible meanings based on the reader's **semantic knowledge**. Semantic knowledge refers to all the information about a word, its possible meanings, and its relations to other words and to real-world referents. (See the discussion of semantic networks in Chapter 4.) Incomplete semantic knowledge impedes comprehension of written text. As a young reader I encountered a story about a boy who lived in Washington and whose father worked in the *Cabinet*. My semantic knowledge of the word *cabinet* was limited to its meaning *cupboard*. How could a grown man fit in a cabinet, I wondered? What kind of work would he do inside a cabinet? I had a great deal of difficulty understanding an important aspect of the story, so much so that more than forty years later I still remember how puzzled I was!

## Comprehension and Interpretation

The final component of the reading process encompasses the ability to comprehend and interpret texts. Successful comprehension and interpretation depend on a number of developing skills and knowledge, including the automaticity of word recognition, vocabulary size, the capacity of working memory, and world knowledge (National Reading Panel, 2000). In order to accommodate children's developing abilities, books

for young readers are age-graded, that is, designed specifically for children's evolving skill levels and knowledge bases (Baker & Freebody, 1989).

## Reading Development in Children

Because reading is a complex skill, expertise in reading evolves slowly. In addition, purposes for reading change with age. Although there are a number of different models of reading development (Ehri, 1991; Frith, 1985; Gough & Hillinger, 1980; Harm & Seidenberg, 1999; Perfetti, 1992), we will focus on the model Jean Chall (1996) has formulated, a model that describes the stages through which children pass. Chall's model (see Table 10.3) begins with prereaders, young children in the preschool years (Stage 0), and ends with college-aged readers (Stage 5).

The prereader pretends to read, although she may have acquired some important concepts about the conventions of printed texts and may possess some elementary

**Table 10.3** Some Features of Chall's (1983, 1996) Model of Reading Development

<i>Stage</i>	<i>Age and Grade</i>	<i>Major Features</i>	<i>Method of Acquisition</i>
0	6 months to 6 years Preschool, Kindergarten	"pretend" reading, names letters of alphabet, prints own name, recognizes some signs (e.g., Stop, Coca-cola)	exposure
1	6 to 7 years Grade 1, beginning Grade 2	learns grapheme-phoneme rules; sounds out one-syllable words; reads simple texts; reads about 600 words	direct instruction
2	7 to 8 years Grades 2 and 3	reads simple stories more fluently; consolidation of basic decoding skills, sight vocabulary and meaning; reads about 3,000 words	direct instruction
3	9 to 14 years Grades 4 to 9	reads to learn new knowledge, generally from a single perspective	reading and studying; classroom discussion; systematic study of words
4	15 to 17 years Grades 10 to 12	reads from a wide range of materials with a variety of viewpoints	reading and studying more broadly
5	18 and older	reads with self-defined purpose; reads to integrate self knowledge with knowledge of others; reading is rapid and efficient	reading even more widely; writing papers.

(Adapted from Chall, 1983, Table 5-1, pp. 85-87)

reading skills (e.g., recognizing her own name). In this stage, the child is primarily using top-down processes in making hypotheses about what reading is all about (Chall, 1996). According to **top-down models** of reading, reading is a *psycholinguistic guessing game* that consists of generating and testing hypotheses (Goodman, 1986; Goodman & Goodman, 1990; Smith, 1971). With the onset of formal instruction (Stage 1), bottom-up processes become important. **Bottom-up models** of reading hold that reading is largely dependent upon accurate perception of the letter strings that make up words (Gough, 1972). Stages 1 and 2 have been characterized as “learning to read.” The emphasis is on mastering decoding skills, on recognizing and sounding out words. In order to facilitate this decoding process, many of the texts children read during these stages are relatively simple and contain little knowledge that is truly new.

In Chall’s model, a major shift occurs between Stages 2 and 3, which normally occurs after the third grade. Where Stages 1 and 2 were characterized as “learning to read,” Stages 3 through 5 have been characterized as “reading to learn.” Here the focus is on extracting meaning from texts, and many of the materials children read contain new knowledge, including new words or phrases for a variety of never-before-encountered concepts. During Stages 3 through 5, reading is best characterized as interactive, with the child drawing on both bottom-up and top-down processes. Children move from reading texts with a single focus to reading from an array of texts that present more diverse perspectives. At the highest level (Stage 5), the mechanics of decoding are highly **automatized** so that reading is rapid and efficient. More importantly, the goals of reading are more intellectually sophisticated than at previous stages. Now reading is a process through which readers seek to broaden their knowledge. Snow (1993a, p. 12) has defined sophisticated college-level literacy as involving “the ability to read in ways adjusted to one’s purpose (to enjoy light fiction, to memorize factual material, to analyze literature, to learn facts and discover ideas in texts, to judge the writer’s point of view, and to incorporate information and perspectives from texts into one’s own thinking but also to question and disagree with information and opinions expressed).” Clearly, such high-level reading involves both the ability to accurately comprehend the literal meaning of text, as well as the ability to reflect on the broader meaning of the text itself (Grigg et al., 2003; Snow et al., 1998).

## Approaches to Reading Instruction

Models of the stages through which skilled reading is attained have implications for reading instruction. How best to teach young children to read (and write) has been a source of controversy (Adams, 1990; Adams, Treiman, & Pressley, 1998; National Reading Panel, 2000; Rayner et al., 2001). The controversy reflects differences in theories of child development and learning, as well as the concern that some teaching methods may be associated with higher frequencies of reading failure (Flesch, 1985). Nevertheless, proponents of varying viewpoints share the same goal: They all want children to acquire a solid mastery of the basic skills of reading and writing.

There have been a number of approaches to the teaching of reading. The belief that reading is primarily a perceptual process involving vision has been largely discredited, although it was a dominant force in instruction for the early part of the century. More recent approaches treat reading as a language-based activity (Wolf, Vellutino, & Berko Gleason, 1998). Within this conceptualization, two different aspects of reading are stressed: reading for meaning and reading as decoding. According to proponents of **reading for meaning**, children should be encouraged to treat texts as sources of meaning. The function, rather than the form, of written language is stressed. Reading familiar texts (e.g., basal readers) and fostering the development of a large sight vocabulary are common features of the reading for meaning approach. Formal instruction often involves a look-say approach, in which whole words and sentences are presented to children, who are encouraged to say them aloud. Within the reading for meaning approach, when children encounter unfamiliar words, they are encouraged to use their knowledge of context (including pictures that accompany the text) to make a best guess. Thus, this approach presumes that children will use top-down processes extensively.

A currently popular variant of the reading for meaning approach is termed the **whole language** or *literature-based* approach (Goodman, 1986; Martinez & McGree, 2000). Presented more as a philosophy of learning than a specific instructional method (Rayner et al., 2001), whole language models are based on a conceptualization of the child as an active learner who seeks to construct meaning from interactions with texts. According to this view, the texts that children encounter must contain complete (“whole”) meaningful language. Attention to the mechanics of decoding is usually secondary to the goal of obtaining meaning from any given text.

In contrast to whole language approaches to reading instruction, **reading as decoding**, or **phonics**, methods emphasize bottom-up skills (Adams, 2002). These methods explicitly teach decoding, particularly grapheme-phoneme correspondence rules. Instruction focuses on acquiring fluency in naming the letters of the alphabet, segmenting and blending phonemes, and learning the grapheme-phoneme rules. Reading for comprehension and meaning are felt to be dependent on successful, rapid, and automatic decoding. Within a decoding approach, when children encounter unfamiliar words, they are encouraged to sound them out, letter by letter. Children with strong decoding skills can employ **phonological recoding**, the process wherein letter strings are transformed into a pronunciation that is then recognized as a word (Ehri, 1998; Share, 1995).

Which approach is best? Historically, this has been the controversial question. More recently, several influential analyses of the vast literature on the effects of different reading programs point to the importance of presenting most children with some formal instruction in phonics (Adams, 1990; National Reading Panel, 2000; Snow et al., 1998). This is especially true of children whose home literacy experiences have been limited. For example, in a study of at-risk children, explicit decoding instruction was compared to less explicit code instruction (Foorman, Francis, Fletcher, Schatsschneider,

& Mehta, 1998). Children who had received explicit code instruction were later able to read more quickly and recognize more words than children who had experienced less explicit code instruction.

Based on a thorough review of the extensive literature on reading instruction, the National Reading Panel (2000) assessed the effectiveness of a number of methodological practices including instruction in alphabets (phonemic awareness, phonics), fluency, and comprehension (vocabulary, text). The findings support the explicit teaching of phonemic awareness and phonics, the encouragement of guided oral reading (reading out loud under the supervision of a parent or teacher), and age-appropriate vocabulary instruction. The teaching of a number of comprehension strategies (comprehension monitoring, question answering, and summarizing texts) was also endorsed.

Thus, although some children acquire decoding skills through informal exposure to reading (Thompson, Cottrell, & Fletcher-Flinn, 1996), reading itself is not a natural process (Liberman, 1999). For most children, becoming a skilled reader requires some explicit instruction in decoding skills. Obviously, reading instruction can combine some of the positive features of the whole language approach (meaningful texts) with formal instruction in decoding (Fitzgerald & Noblit, 2000; Snow et al., 1998).

## When Learning to Read Is Difficult

Not all children learn to read easily. Causes of reading failure that are beyond the individual child include attending inadequate schools and living in poor neighborhoods (Snow et al., 1998). These factors reflect exposure to environments in which resources and expectations regarding literacy may be less than optimal. Other group risk factors include having limited competence in spoken English and speaking a dialect different from that used in school. These attributes place the child at risk because they often reflect a history of limited experience with the phonology of standard written English. Risk factors specific to individual children include cognitive deficits, language-specific problems, reduced preliteracy experiences, and a family history of reading problems (Snow et al., 1998). (See Chapter 9 for a discussion of atypical language development.)

One group of children that experiences much difficulty in learning to read (and write) is of particular concern to educators, researchers, and parents. These children are of average or above-average intelligence; they have no significant social-emotional or cognitive deficits; and they have received adequate instructional support. Despite these resources, they fail to achieve age-appropriate mastery of the fundamental aspects of written language and are often diagnosed as dyslexic (Shaywitz, 1996). **Dyslexia** and **developmental dyslexia** are terms used to describe reading failure in children (and adults) who are otherwise unimpaired.

Historically, dyslexia was thought to be caused by deficits in visual-perceptual processing, with spontaneous letter reversals being a classic example (e.g., treating a *b* as a *d* and a *w* as an *m*). Currently, however, visual-perceptual deficits are felt to play

only a very minor role in dyslexia (Fletcher, Foorman, Shaywitz, & Shaywitz, 1999); the dominant view is that dyslexia is a language-specific disorder, characterized by marked deficits in linguistic processing (Morrison, 1993; Shankweiler, 1999; Stanovich, 1993, 2000). Although there is no consensus as to whether dyslexia is a single disorder or a cluster of related disorders (dyslexias), it is clear that dyslexic children have significantly more problems in phonological processing than children of average reading abilities. For example, children with dyslexia perform poorly in segmenting words, in naming, and in phonological short-term memory tasks (Stanovich, 1993). The incidence of dyslexia is reported to be between 3 and 10 percent of the population; however, rates vary according to the age of the population studied and the diagnostic criteria employed (Catts, 1996; Shaywitz, Escobar, Shaywitz, Fletcher, & Makuch, 1992; Shaywitz et al., 1990). Histories of reading difficulties are significantly higher than average in parents of dyslexic children (Scarborough, 1998), and there are data that suggest that dyslexia may be in part a genetic disorder (DeFries & Alarcon, 1996; Grigorenko et al., 1997). Finally, based on brain-imaging studies, children with dyslexia manifest disruption in underlying neurological processes that are believed to be related to reading (Shaywitz et al., 2002).

## Writing

In this chapter we have presented reading before writing, as is conventional. However, writing and reading are inextricably linked, and both influence and are influenced by the child's ongoing language development and metalinguistic knowledge (Adams et al., 1998; Perera, 1986). The traditional approach held that children could only learn writing through formal instruction. Writing should follow the elementary mastery of reading, because through reading children would acquire the grapheme-phoneme correspondence rules and would learn the conventions of print. Within this traditional approach, early instruction in writing often involved having children practice forming the letters of the alphabet and copying texts.

Garton and Pratt (1989) have questioned the logic of this approach. They believe that children, as active learners, acquire much information about writing even before they receive formal instruction in reading. They cite four benefits to encouraging pre-reading children to experiment with writing. First, children who spontaneously make writing marks on a page are actively involved in the writing process (versus passively copying letters and texts). Second, in making efforts to write what they themselves say, children begin to become aware of the relationship between written and spoken language. Third, children who, on their own, write single letters and letter strings to represent words are beginning to discover the alphabetic principle. Fourth, and finally, as children read back what they have written, however inaccurately, they are being exposed to the close relationship between writing and reading.

## Development of Spelling

DOT MAK NOYS

Don't make noise.

B CYIYIT

Be quiet. (Read, 1980)

In many instances, children write in order to communicate (Bissex, 1980). They want to say something *in writing* to themselves or to others. In children's earliest writing, there may be little relationship between the letter strings they write and what they intend "to say" (Bialystok, 1995). Eventually, they will be confronted with the task of mastering the conventions of standard spelling. The grapheme-phoneme correspondence rules that must be learned in order to read are the same rules that must be learned in order to spell conventionally. Children must come to recognize that the vowel sound /uw/ can take many different orthographic forms, as in the words *do*, *food*, *group*, *blue*, *knew*, *super*, and *fruit* (Treiman, 1993). In addition, *the letter names themselves* can be a source of confusion to beginning spellers (Treiman, Weatherston, & Berch, 1994) and children need to be able to distinguish letter names from letter sounds (McBride-Chang, 1999; Treiman, Tincoff, Rodriquez, Mouzaki, & Francis, 1998). The confusion between letter names and letter sounds explains why kindergarten children are more likely to spell the phoneme /w/ with a *y* because the name of *y* (/wai/) begins with /w/.

Children often rely on creative or invented spelling (Read, 1986; Richgels, 2002; Treiman, 1993) in their early writing. **Invented spelling** is systematic rule-governed spelling that is created (invented) by developing writers. In its early stages it is in large part phonetic, as the invented spellings children use are generally not modeled by adults or found in printed texts (Read, 1986). Children's early attempts at encoding language orthographically reveal that they are active learners who seek rational solutions to mapping the sounds of their oral language (Adams et al., 1998). For example, Read found that many young children deleted the nasals /m/, /n/, and /nj/, particularly when the nasal precedes a true consonant. As in the example above, *don't* is spelled DOT. Other examples of this strategy include spelling *monster* as MOSTR, and *New England* as NOOIGLID (Read, 1986). It appears as if children are analyzing the speech stream in a way that is qualitatively different from that of adults, often treating nasals as part of the preceding vowel instead of perceiving nasals as distinct phonemes (Treiman, Zukowski, & Richmond-Welty, 1995).

Gentry and Gillet (1993) have formulated a stage theory of spelling. Children start at a precommunicative level in which they write random letters that have little correspondence to what may be intended. They then pass through several phonetic stages (HMT DPD for Humpty Dumpty and DASY DEC for Daisy Duck) before finally arriving at a conventional stage (p. 25). Underlying the pattern of development is a progression of strategies that children employ. They begin by using phonetics, then

they look to regularities in orthographic patterns, and finally they utilize their knowledge of the origins of word roots.

## Development of Writing and Genres of Writing

Children master spelling in order to write, to say something in writing, and they are able to do so in ever more sophisticated ways as their writing develops. Part of learning to write entails mastering the concept of genres. Like speech registers, the term **genre** refers to discourse that is specific to particular contexts and functions. Genres are characterized by consistencies in form and content. A science report, a fictional short story, and a lyric poem are likely to take different forms, focus on very different contents, and are often produced for very different occasions. In order to become fully literate, competent writers, children must learn the conventions of a variety of genres over the course of their schooling (Hicks, 1997; Kamberelis, 1999; Pappas, 1998; Shiro, 2003).

One genre of writing that is common in the early school years is **expressive style** (Britton, 1990; Britton, Burgess, Martin, McLeod, & Rosen, 1975). Expressive writing is informal personal writing, sometimes characterized as thinking out loud, and includes diary entries and letters to friends. Above all, expressive writing is characterized by the writer's close awareness of self and close relationship with the reader. Because it often fulfills a personal need, children need little prompting to engage in expressive writing.

A third-grader's final science project (see below) contains elements of expressive writing, seen particularly in his adoption of a first-person voice, although, as we will see, the general form of the essay is more expository than expressive:

Hi I Perry, the pituitary gland. I control other endocrine glands, growth, mother's milk production and I also control the amount of water the kidneys remove from the blood. I also tell other endocrine glands to produce their own hormones. You can come visit me at the base of the brain. Sometimes when I really get mad I give very little growth hormones. But doctors always give injections of growth hormones. I produce the hormone which controls growth. I tell the ovaries to produce a hormone called progesterone. I've heard a pituitary made a person over nine feet. Some pepole call me master gland. I'm reddish-gray. There's this relly cool feedback mechanism of mine. This makes sure that enough of each hormone circulates in the body. I also have three lobes. I forgot to tell you but I connect to the hypothalamus by a stalk. Oh and I'm the size of a pea. Bye.

Overall, the writing is coherent. The style is marked by a mixture of formal and informal prose, reflecting the influence of ongoing exposure to written genres of language, including science texts, as well as the child's longstanding experience with oral language. His essay also includes some fairly sophisticated technical terms (*feedback mechanism*) and rare vocabulary words (e.g., *injection* versus *shot*) that were copied down in the course of doing his research. Although *progesterone* is spelled correctly,

there are several inventive spelling errors of relatively common words (e.g., *pepole, relly*). In addition, there are a number of errors of syntax, primarily omissions of function words. Nevertheless, the essay achieves what the author intended; it successfully conveys information about the pituitary gland to the reader, and does so in an engaging and, at times, humorous manner.

Despite the informal tone of the text, its overall form can be characterized as expository. **Expository writing** is organized hierarchically and is closely associated with Bruner's paradigmatic mode of thought, discussed earlier. Good expository writing requires organization, with key points and arguments presented clearly, concisely, and logically. Young children find expository writing especially difficult. Early attempts at expository writing often represent *knowledge telling* or *knowledge dumping*, in which children list ideas as they come to mind, with no clearly marked beginnings or endings, and little overall organization (Bereiter & Scardamalia, 1987). Over time, and with instruction, children may learn to revise their written work (Beal, 1990). The best writers plan what they are going to write while keeping the potential reader in mind. They are also able to put their plan into action and are able to successfully revise what they have written (Flowers & Hayes, 1980).



*Expository writing is organized logically and hierarchically. Narrative writing follows a chronological time line.*

In contrast to the logical and hierarchical basis of expository writing, **narrative writing** is organized chronologically and uses a time line as its organizational basis. Written personal and fantasy narratives follow a chronological order. The developmental course of narrative writing is varied, in part because it is generally neglected in high school and in college, where most writing assignments require an expository style. Outside of creative writing courses, few older students have extensive experience in narrative writing.

Although much of children's writing takes place in school settings under the direction of teachers, writing is a social process. Writing is often shared with peers, and writing projects are sometimes set up to be collaborative (Daiute & Griffin, 1993; Dyson, 2003). The social aspects of writing are not just restricted to school. As was noted in our discussion of the home-school study by Snow and her colleagues (1991), writing was associated with positive parent-child interactions. Children who have generally positive relationships with their parents may develop confidence that they have something to say in their writing. Thus, some of the origins of good writing may begin very early in a child's life.

Skill in writing develops slowly in most children and adolescents and reaches maturity only in adulthood, and then only in some writers (Applebee, Langer, Mullis, & Jenkins, 1990; Bartlett, 2003). Currently, there is concern regarding children's ability to write well. A recent national study summarized its findings by calling writing the "neglected R" (National Commission on Writing, 2003). Although many students in grades four through twelve can master the basics of writing, far fewer—only about 25 percent—can write proficiently. Basic writing is characterized as being "acceptable in the fundamentals of form, content, and language . . . [with] . . . grammar, spelling, and punctuation [that] *are not an utter disaster*" (emphasis added). In contrast, proficient writing comprises "first-rate organization, convincing and elaborated responses to the tasks assigned, and the use of rich, evocative, and compelling language" (pp. 16–17). In order to improve children's writing, the commission recommends that the time devoted to writing in school be doubled; it also urges that writing be a component in all subject matters. The underlying premise behind the emphasis on writing is the claim that good writing is not just sophisticated knowledge dumping. Rather, good writing is learning; it is a way of using language to understand the world (p. 13).

## Bilingualism

When my wife returned to the United States at age five, she spoke four languages. She had lived in Indonesia with her family and members of her extended household and spoke English, two dialects of Chinese, and Malay. She had even begun to master written Chinese, having attended kindergarten in a Chinese school. Her workbooks, now very faded, indicate that she showed great talent in her brush work. Today, she has little knowledge of three of the four languages she spoke fluently when she was a child,

and she has only a minimal command of French, a language she studied in high school and college thirty years ago. The changes she experienced in her ability to speak second languages are experienced by many multilingual children, and these changes are often accelerated by children's entry into school.

When a speaker gains a second language while retaining a first language, the process is called **additive bilingualism** (Bialystok & Hakuta, 1994). Often, the acquisition of the second language is seen as an asset, as enhancing the prestige and social and economic prowess of the speaker (Tabors & Snow, 2002). Thus, a Cambodian teenager whose parents immigrated to the United States might rapidly acquire English in order to complete high school and attend college, while still remaining fluent in her native language. Her acquisition of English could occur in **submersion** settings in which she alone was surrounded by English speakers, or in **immersion** settings, in which she and other non-English-speaking students received instruction in English only.

In contrast to additive bilingualism, **subtractive bilingualism** refers to the loss of fluency in one's native language that occurs when acquiring a second language. Subtractive bilingualism is also seen in children of immigrants. The language of their parents, the language of the old country, is gradually replaced by the dominant language of the new country, as the children interact and speak more and more with peers and other adults who are not speakers of their native language (Wong Fillmore, 1991). In some settings, the language of the old country is even stigmatized; thus, a nine-year-old Russian immigrant might shy away from speaking Russian at home, preferring instead the language of his new schoolmates. Families who are concerned with their children's potential loss of fluency often send their children to special schools where they receive instruction in the language and culture of their parents.

Children who acquire a second language before puberty are likely to speak it with a native accent (Krashen, Long, & Scarcella, 1982). However, being younger is not necessarily an advantage in terms of the *rate* of acquisition, as older learners acquire a second language more rapidly than younger learners in untutored settings (Snow, 1983, 1987). Children growing up learning two or more languages simultaneously can do so without difficulty. They may show delays in vocabulary growth in each language because they are learning two or more lexicons, but their combined lexicons are often greater than that of monolingual children (Pearson & Fernández, 1994). Bilingual children also outperform monolingual children on some metalinguistic and emergent literacy tasks (Bialystok, 2001a, 2001b; Bialystok, Shenfield, & Codd, 2000). For example, they learn at an early age about the arbitrary relation between words and their referents (Reynolds, 1991). A bilingual Creole- and English-speaking Haitian child learns that the same food on her plate can be called *duri*, or it can be called *rice*.

Children who are acquiring English as a second language in a community where English is the dominant language often face the challenge of acquiring literacy in a language with which they are not fully proficient (August & Hakuta, 1997; Oller & Eilers, 2002; Snow et al., 1998). As noted earlier, these children may be at risk for reading difficulties. Educators face the challenge of determining whether it is better to begin

literacy instruction in the child's native language or to move directly toward promoting literacy in English. There are data (reviewed in Snow et al., 1998; Tabors & Snow, 2002) that suggest that if children begin to master literacy in their native language, they are able to transfer literacy skills to English. This approach may be especially important for children whose proficiency in English is relatively limited.

For many monolingual English-speaking children in the United States, encounters with a second language occur exclusively in school settings. Although there is controversy as to when it is best to begin formal instruction, many high school and college students are required to complete several years of a "foreign language." Unfortunately, this is often viewed as drudgery, and many adolescents have little opportunity to use the languages they are studying outside the classroom (Snow, 1993b). Thus, most native English-speaking adolescents enter adulthood as functionally monolingual, whereas adults in the rest of the world are often bilingual or multilingual, at least to some extent.

## Summary

During the school years, children's language development becomes increasingly individual. It is easier to describe the language of the typical two-year-old than it is to describe the language of the typical twelve-year-old. In this chapter, we have seen how language undergoes change and growth during the school years. For many children, these developments are positive. Ideally, they are built on extensive early experiences with oral language, including many conversations with parents and other adults, especially conversations in which decontextualized language was encouraged and supported.

Children following a positive trajectory learn to joke and tease comfortably with other children. When confronted with formal instruction in reading and writing, they may already have a basic grasp of many of the important concepts. They might already read, having inferred the alphabetic principle and the basic grapheme-phoneme correspondence rules from their many encounters with books read to them by parents. Throughout the middle school years, their ability to read and write improves rapidly. They read to learn, and through school assignments and extracurricular activities, they acquire strong foundations in the literate knowledge base of their culture. By high school, they have a firm command of their peer group register (adolescent register) and a strong sense of gender stereotypes in language use, although they may choose not to abide by them. In addition, they are often exposed to formal foreign language instruction.

Not all children follow this pattern. Many do not have extensive emergent literacy experiences at home. Many are in poor schools where reading and writing instruction is inadequate, where literate materials like books are scarce, and where rates of reading failure are high. Even children who do learn to read and write well may have few opportunities to use their literacy skills in meaningful and satisfying ways. Many bilingual children feel pressured to suppress their native language in favor of the dominant language, and many monolingual children have trouble learning a second language.

Thus, in its extreme forms, language development in the school years can follow two opposite courses. One course represents arrested development and lost opportunities, with the progress of the early years overshadowed by stagnation, particularly in the failure to acquire a solid grasp of literate language. This developmental trajectory makes the transition to adulthood problematic. The other course represents a continuation of the dramatic developments the child experienced in the first five to six years of life. Building on these strong foundations, children following this route achieve even greater mastery of oral language and develop a strong and sophisticated command of written language as well (Perfetti & Marron, 1998). These developments in turn enhance the transition into adulthood, preparing the child for eventual mastery of the rich variety of complex modes of oral and written language he or she will continue to encounter.

## Key Words

additive bilingualism	narrative mode
adolescent register	narratives
alphabetic principle	narrative writing
automaticity (automatized)	paradigmatic mode
bottom-up model	phonological recoding
deep orthographies	reading as decoding (phonics)
dyslexia (developmental dyslexia)	reading for meaning
emergent literacy	riddles
environmental print	segmentation
expository writing	semantic knowledge
expressive style	shallow orthographies
extended discourse (decontextualized language)	submersion
genre	subtractive bilingualism
grapheme	top-down model
grapheme–phoneme correspondence	topic-associating narrative
rules	topic-focused narrative
immersion	verbal aggression
invented spelling	verbal humor
letter recognition	whole language (literature based)
metalinguistic awareness	word recognition

## Suggested Projects

1. Present children between the ages of five and nine with a sample of riddles. Ely and McCabe (1994) and Pepicello and Weisberg (1983) are good sources. Use the coding scheme presented in Table 10.1 to assess their metalinguistic development. Pay particular attention to the metalinguistic terms they use (e.g., *word*, *means*, *sounds like*).
2. Ask a group of adolescents to generate a list of slang words or expressions that are used by their age group. Then ask a thirty-year-old, a fifty-year-old, and a seventy-year-old (who ideally have had little recent contact with adolescents) if they know what the words or expressions mean. Ask your older informants to list words that were particular to their adolescence. What similarities and differences do you find?
3. Ask boys and girls of different ages how they might ask another unfamiliar child or an adult for directions—for instance, how to find a familiar landmark. See to what degree children use politeness markers (*excuse me*, *pardon me*, *thank you*) in their requests, and ask them why they did or did not include them. Ask them how they would judge the adequacy of the directions. See if you find any gender differences.
4. Peterson and McCabe (1983) developed a technique for eliciting narratives from children. When talking to their subjects, they included prompts about specific events. Example: “The other day I had to go to the doctor and get a shot. Has anything like that ever happened to you?” Using this approach, gather a small sample of narratives from children of different ages. Examine the narratives for developmental differences.
5. Find three children between the ages of five and seven: one who does not read, one who is just learning to read, and one who reads relatively well. Using an interesting children’s book, ask each child about the conventions of print (Where do you begin reading? What are the spaces between the words for? What are punctuation marks for?). Ask each child what it means to read and how you learn to read. How do the children’s notions about reading compare with what we know about reading?
6. Find an interesting object (an egg beater, an animal skull) and ask children of different ages to “write anything you want” about the object for five minutes. Compare the children’s performances, paying attention to their writing form. Look also for invented spelling in younger children’s writing. What developmental trends do you notice?

## Suggested Readings

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â€˜The Development of Language Learning Aptitude and Metalinguistic Awareness in Primary-School Children: A Classroom Studyâ€™™, Essex Research Reports in Linguistics, Vol. 62.1. Dept. of Language and Linguistics, University of Essex, Colchester, UK, April, 2013. <http://www.essex.ac.uk/linguistics/publications/errl/errl62-1.pdf>. 1. The Development of Language Learning Aptitude and Metalinguistic Awareness in Primary-School Children: A Classroom Study.Â Language-analytic ability and metalinguistic awareness enable the learner to direct attention to the formal properties of language, to make comparisons, to identify regularities, to extract patterns, and to link these with the functional properties of language, i.e. semantic and pragmatic meaning.