chapter two

The Structure and Function of Language

> *The structural properties of the language are many and complex, but at least they are finite and fairly easy to identify: there are only so many sounds, letters, and grammatical constructions, and although there is a huge vocabulary, at least the units are determinate and manageable.*
>
> Crystal (1995, p. 286)

> *The question "Why do we use language?" seems hardly to require an answer. . . . [O]ur everyday familiarity with speech and writing can make it difficult to appreciate the complexity of the skills we have learned. This is particularly so when we try to define the range of functions to which language can be put.*
>
> Crystal (1997, p. 10)

KEY CONCEPTS

After reading this chapter, you should have a basic understanding of:

- The structure of language
- The function of language
- Relation of structure and function to language and reading difficulties

This is the time, again, at which you the reader should think of possible questions related to the major topics listed above. For example, what is meant by the structure of a language? What are language functions? How

does structure relate to language and reading difficulties? Do functions relate to these difficulties? Why is it important to know all about structures and functions? Will this be helpful for teachers and clinicians? I will leave it up to you to think of additional questions. My hope is that your questions will be answered or that you will receive some insights by the time you complete this chapter.

Starting a dialogue on the structure and function of language should cause linguists' mouths to salivate, especially since many of these professionals make a living by engaging in and writing about such topics. However, the rest of us mortals would probably shudder at the thought of discussing esoteric terms such as *determiners* (e.g., *a*, *an*, *the*), *verb plus particles* (e.g., *run into*; *rip off*; *look up*), and *relative clauses* (e.g., *The boy* ***who kissed the girl*** *ran away*). Perhaps these labels are new to you and do not affect you in the same way that *nouns*, *adjectives*, and *adverbs* did for another, older generation of individuals.

In any case, it probably was not much fun for you or many high school or college students to diagram (or parse) sentences. For example, consider the following sentence:

The boy kissed the girl.

You probably remember that you had to indicate the subject (*boy* modified by an adjective—i.e., determiner—*the*), the verb (*kiss* with a past tense marker, *-ed*), and perhaps the object—either direct or indirect (*girl* as direct object, here modified by another determiner, *the*). This seems like a perfectly good method to use until some smart aleck (perhaps a relative of Noam Chomsky) asks the teacher about the following sentence:

Visiting relatives can be boring.

This sentence is ambiguous—that is, it has two different interpretations. One interpretation is that the act of someone (or the subject, *you*) visiting his or her relatives can be boring. The second one is that relatives who visit can be boring. Either interpretation is bound to start a family argument. The point here is that using the traditional parsing method is not feasible unless one can show both interpretations at the same time. Of course, you can diagram the above sentence twice, but one diagram (the first interpretation) will have an empty slot for the subject, which is also ambiguous (*you*, *a person, someone*).

The fun really begins with a sentence such as the following:

Visiting professors can be dangerous.

For most people, there are still two interpretations. For those of us in an academic setting, however, there are three (*visiting professor* is also a *title*). Now we need three diagrams, which seems to be against the law of linguistic parsimony.

Or, maybe, if you are a little younger, you might remember that for a sentence such as *The boy kissed the girl* you had to identify the noun phrase (*The boy*) and the verb phrase (*kissed the girl*). Then, you labeled parts of the noun phrase (*The* as determiner, etc.) and parts of the verb phrase (*kiss* plus past tense marker plus a noun phrase, *the girl*, and so on). If you are familiar with Chomsky's model, you can use fancy phrases such as *surface structure* (i.e., the sentence as is) and *deep structure* (i.e., the meaning of the sentence to reflect the ambiguity).

In addition to diagramming or parsing, perhaps you had a teacher who spent an enormous quantity of time on encouraging you to use *proper English*. Instead of asking ***Can*** *I go to the bathroom, please*? you should ask ***May*** *I go to the bathroom, please*? Don't say *I ain't got nothing*; rather, you should say *I don't have anything.* The teacher may have admonished you to speak in complete sentences all or most of the time. This probably did not make much sense when simple responses such as *yes*, *no*, *got it*, *no doubt*, *cloudy today*, and so on seemed to be sufficient.

Then, the pain of writing a passage emerged—perhaps daily or weekly. Here the teacher may have informed you that your sentences needed to be more interesting and informative. You needed a broader range of vocabulary or, rather, to be judicious in the selection of your words. On your paper were what seemed like perfectly good sentences:

After waking up in the morning, the girl was tired. She walked slowly to the store. After thinking a little while, she bought a loaf of bread.

Instead, through the ever-present red marks from the teacher, you ended up with the following:

After opening her eyes in the morning and despite feeling exhausted, the girl meandered slowly, almost aimlessly, to the grocery store,

taking longer than her usual time to get there. She wandered up and down the aisle several times before finally deciding what loaf of bread to purchase.

To expand your use of words, perhaps the teacher instructed you to play a synonym game in which the goal was to come up with a bigger (and, obviously, better) word for the smaller word. Consider the following examples:

The Original Word	***The Synonym***
big (as in *a big appetite*)	enormous
sly (as in *a sly operation)*	clandestine
chance (as in *this is your chance*)	opportunity

After all this, you probably were too exasperated to use language to express your emotions or release your tensions (well, not at school anyway). You certainly used your language to think impure thoughts about the teacher, in particular, and about school in general. Among your friends, you may have decided to express your solidarity by adopting phrases that illustrate—quite nicely—the functions of language, such as:

- *Grammar is for sissies.*
- *Our teacher lives in the Dark Ages.*
- *The teacher should leave our language alone.*
- *Hell no, I ain't gonna do this writing crap.*

At some point, you and others may have wondered, or even asked, What is the purpose of learning about grammar and language use? Even today, this is a good question. Putting it differently, we should inquire: Why is it important for language teachers and clinicians to study the structure and function of language? In essence, I want to argue that teachers and clinicians not only should know something about the *psychology of learning* (i.e., understanding the particular learning styles and so on of students and clients) but also should possess a *deep understanding* of the language areas on which they are planning to focus in the classroom or clinic. This deep understanding should enable teachers and clinicians to predict or see the specific areas in which students are experiencing problems with respect to the overall goals of language structure and function. Then, these professionals can come up with an array of ideas (i.e., *potpourri* or *bag of tricks*), based on sound linguistic principles, to assist students in overcoming barriers to their understanding.

Teachers with a deep knowledge of language components, for example, can be extremely creative with their suggestions and strategies for students to increase their understanding and use of form (phonology, morphology, syntax), content (semantics), and use (pragmatics). With the above in mind, let us get to work on learning some basic information about the structure and function of language, which facilitates understanding the topics covered in the rest of this text.

STRUCTURE OF LANGUAGE

Prior to discussing a few details or facts on the structure of a language such as English, it is important to provide a conceptual framework for organizing and thinking about this information. However, selecting a conceptual framework has its challenges. What framework should be used, and why does this particular selection facilitate understanding? Should the developmental or acquisition process influence the selection and discussion (e.g., see Pence & Justice, 2008)? Should a focus on a functional approach be considered (e.g., see Owens, 2004)? Should we use terminology that is associated with traditional grammar, such as *nouns*, *verbs*, and *adjectives* (e.g., Curme, 1947), or with modern grammar, such as *noun phrase* and *verb phrase* (e.g., Culicover, 1997)? Or, perhaps, a little bit of both—traditional and modern?

Any framework that is used is actually arbitrarily selected for discussion purposes; there is no best framework for analyzing and discussing language, as was mentioned in Chapter 1. Nevertheless, a conceptual framework is necessary to assist in the understanding of the phenomenon of language and to teach or develop it, if necessary. The goal here is to assist you in grasping the major points made in the ensuing chapters of this text, particularly those points that relate to the particular structures and functions of English. For example, it has been mentioned that deaf or hard of hearing children have difficulties with English syntax (word order; see review in Russell, Quigley, & Power, 1976). Much of the research has focused on specific syntactic structures and on two major order types—linear and hierarchical (see later discussion; see also Chapters 7 and 8 on reading and writing). Thus, the research on deaf or hard of hearing children drives part of the discussion on syntax in this chapter to assist readers in understanding the research discussed later in the text.

One popular conceptual framework is the classic one of Bloom and Lahey (1978), who used the following categories: form, content, and use. *Form* refers to phonology, morphology, and syntax; *content* to semantics; and

use to pragmatics. Through the eyes of Bloom and Lahey, an understanding of a language means an understanding and simultaneous integration of form, content, and use by the language learner.

The above framework suggests a focus on the components of a language. I will adopt this format and provide more details within each component. In fact, the organization of the discussion of the English language by Crystal (1995) is sufficient for my purposes (i.e., "The Sound System," "The Structure of Words," etc., as discussed later). The components associated with form and content (Bloom & Lahey, 1978) refer to the grammar of the language. Initially, the discussion targets the sound system (i.e., phonology). Then, the chapter proceeds to the structure of words (i.e., morphology). I also spend a little time on word classes such as nouns, pronouns, and adjectives, which are still useful concepts even though they are associated with traditional grammar. Next, the topic is the structure of sentences (i.e., syntax), and then the structure of meaning (i.e., semantics and areas such as idioms, synonyms, and antonyms). Finally, this section ends with a brief treatment of the use of English (i.e., pragmatics).

The Sound System

Chapter 1 stated that phonology represents the building blocks of learning a language—any language. That is, if an individual is to develop a language, he or she needs to acquire the phonological elements, typically in an intuitive or tacit manner (without being taught, or incidentally). This working knowledge of phonology, including the suprasegmental aspects such as intonation, stress, and rhythm, also provides the foundation for the development of reading (see Chapter 7), especially given the importance of phonemic awareness (e.g., National Reading Panel, 2000). Let us finish this line of thought: phonics, an instructional tool used in reading to assist individuals with the association of phonemes (vowels and consonants) with graphemes (letters), is not feasible without some grounding (a good one in some scholars' eyes) in phonological and phonemic awareness. Terms such as *phonology*, *phonemes*, and *phonics* can sound confusing (pun intended). I attempt to clear up some of the confusion in this chapter.

The other major topic associated with the sound system is phonetics. In fact, both phonetics and phonology are important for discussing the speech reception and production of deaf or hard of hearing students. Some of the concepts of phonetics, in conjunction with residual hearing and speech reading, are covered in detail in the chapter on oral approaches (Chapter 4). In a

nutshell, the art and science of pronunciation can be explored from two broad perspectives—phonology and phonetics (Crystal, 1995). In addition, we can describe these concepts with respect to spoken languages and sign languages (e.g., American Sign Language, as discussed in Chapter 6).

"Phonology is the aspect of language concerned with the rules governing the structure, distribution, and sequencing of speech sounds and the shape of syllables" (Owens, 1996, p. 21; see also Owens, 2004; Pence & Justice, 2008). Humans are capable of producing a range of sounds with their vocal apparatus (lungs, throat, tongue, teeth, lips, etc.); however, only a small, arbitrary sample of those sounds is meaningful for a particular language user. The meaningful sounds are reflective of the structure of the language used in a particular culture. For example, specific speech sounds associated with Swahili may be meaningless or unnoticeable to a speaker of American English. The drawl or lilt associated with a few Southern speakers in the United States may sound strange to English speakers in the northern part of the United States, but these are still recognizable or meaningful sounds in English.

The sound system of English refers to the use of approximately 45 phonemes (more or less due to dialectical variations). A *phoneme* is an abstract concept that actually refers to a family of distinctive, similar sounds and guides the pronunciation of words. A phoneme is the smallest linguistic unit of sound that can signal a difference in meaning. *Allophones* refer to the individual members of a phoneme family, which are slightly different from each other, but not different enough to warrant being classified as a member of a different phoneme family or to modify the meaning of a particular word. **Table 2-1** presents a list of selected phonemes (i.e., consonants and vowels) in English.

Let us provide a brief illustration of the concepts of phoneme and allophone. For example, the consonant (or sound) *b* can be represented by */b/* as in *bat*, *baseball*, *beat*, and so on. */b/* is different from */p/* (as in *pop*, *paste*, etc.). If you repeat the */b/* sound successively for several reiterations, each production sounds slightly different or will vary because of a number of physiological and psychological reasons (e.g., length of air stream, motivation, context). Nevertheless, these slight variations do not alter the meaning of the sound or the word containing that sound.

Because of coarticulation (i.e., the effects of the surrounding sounds in a word), it is possible to detect differences in the production of */b/* in words such as *bat*, *baseball*, or *beat*. That is, the */b/* in *bat* is influenced by the articulatory process (movements and shape of lips, tongue, etc.) of producing the next sound, */a/*. The */b/* in the middle position of *baseball* is influenced

Table 2-1 List of Selected Consonants and Vowels of English

Consonants	*Vowels*
/*b*/ as in b<u>a</u>t	/*a*/ as in m<u>a</u>ss
/*d*/ as in <u>d</u>unk	/*e*/ as in m<u>a</u>te
/*dz*/ as in j<u>e</u>t	/*i*/ as in b<u>ea</u>t
/*f*/ as in <u>f</u>ish	/*I*/ as in h<u>i</u>t
/*g*/ as in <u>g</u>ive	/*u*/ as in m<u>oo</u>d
/*h*/ as in <u>h</u>at	/*U*/ as in b<u>oo</u>k
/*k*/ as in <u>c</u>at	/*o*/ as in b<u>oa</u>t
/*l*/ as in <u>l</u>ake	
/*m*/ as in <u>m</u>oon	
/*n*/ as in <u>n</u>oon	
/*p*/ as in <u>p</u>et	
/*r*/ as in ba<u>r</u>	
/*s*/ as in <u>s</u>ome	
/*t*/ as in <u>t</u>ime	
/*v*/ as in <u>v</u>an	
/*w*/ as in <u>w</u>ad	
/*wh*/ as in <u>wh</u>at	
/*z*/ as in <u>z</u>ip	

by the sounds that surround it, and so on. Yet, these differences are similar enough to belong to one family or group—that is, they do not constitute meaningfully different sounds.

The crux is that the differences in the examples above constitute the concept of allophone, and these allophones are all members of one family—that is, of one phoneme. Thus, /*b*/ constitutes one distinct English phoneme, which contains several allophones due to the pronunciation of /*b*/ in various positions (beginning, middle, end) of words. The classification of phonemes is based on entities such as acoustic or sound properties, production (i.e., modification of the air stream), and place of articulation or production (i.e., placement along the vocal tract). A more detailed discussion of the anatomy and physiology of speech sounds can be found elsewhere (e.g., Owens, 1996, 2004; Pence & Justice, 2008). Some of this discussion is taken up also in Chapter 4 of this text.

The phonological system also consists of prosodic features such as stress, intonation, and rhythm, which are critical for the perception of speech (Crystal, 1997, 2006; Goodluck, 1991). These features are considered

to be suprasegmental phenomena. Rules associated with the construct of stress enable listeners to perceive a particular syllable that is emphasized over the others. An adequate knowledge of the phonological system of English includes an intuitive knowledge of rules relating to the production of both segmental (phonemes) and suprasegmental aspects. As discussed later in this text (Chapter 7), both segmental and suprasegmental knowledge seem to be important for the development of adequate, high-level literacy skills, especially if such skills assist in an understanding of phonics—skills used to understand the relationships between phonemes and their representations in print (e.g., Adams, 1990, 1994; Liberman, Shankweiler, & Liberman, 1989; Stanovich, 1991, 1992). Given this, it might be possible to see the value of using cued speech/language (Chapter 4) or visual phonics (Chapter 7) as possible tools for developing phonological and phonemic awareness with students who are deaf or hard of hearing and who do not benefit from traditional phonics instruction.

If phonology is considered the building blocks of a language, then it can be argued that phonology can serve as a litmus test for the effectiveness of the various sign communication systems (Chapter 5) and cued speech/language (Chapter 4). Cued speech/language was developed using the basic principles of phonology, whereas the English sign systems were developed using the basic principles of morphology.

To obtain some understanding of the development of the sign systems, one needs some understanding of morphology. And a discussion of morphology might provide some surprises. It certainly raises some interesting questions, such as:

- What is morphology?
- Is it related to or affected by phonology?
- Is it related to or affected by the other language components?
- Can it serve as an adequate litmus test—similar to phonology—for learning a language such as English?

The Structure of Words

Of all of the questions posed above, the hardest one—at least according to our virtual salivating linguists—is the first one: What is morphology? Obviously, any *What is* question is difficult to answer. Nevertheless, the disagreements related to this question are a partial reason for the existence or establishment of different sign systems, such as signed English, signing exact

English, and seeing essential English, as discussed in Chapter 5. But, this is jumping the gun or putting the cart before the horse (these phrases will be discussed later as well). Let us start with a discussion of the concept of morphology.

Morphology is the study of *morphemes,* which can be described as the smallest segments of speech that carry meaning (Goodluck, 1991; Matthews, 1991). For example, consider the word *cats*. This word contains two morphemes: /*cat*/ and /*s*/. It also contains four phonemes associated with the four sounds in the word. In this sense, morphology is related to phonology and is concerned with the structure of words. To put it another way, phonemes are the *building units* of a language and are combined to produce morphemes. Basically, we have answered—or at least provided perspectives on—most of the questions posed about morphology at the end of the last section. Let us emphasize one perspective: morphology is important, but it cannot serve as a litmus test similar to phonology for learning a language such as English—as least, for learning the conversational or face-to-face (e.g., speaking) form of the language. I am certain that you will find or read about scholars or theorists who disagree with me (especially in the field of deafness). Nevertheless, although morphology is important and extremely useful, it cannot represent the building blocks of a language similar to the manner of phonology.

Morphology is also influenced by and related to syntax; the order of words—discussed in the next section ("The Structure of Sentences"). For example, the use of tense (e.g., past) or number (e.g., plural) might be affected by the surrounding words or phrases (Crystal, 1997, 2006; Russell, Quigley, & Power, 1976). Consider the following sentences as examples:

1. The girl *win/won* the prize yesterday. [Past tense, *won*, is dictated by the word *yesterday*.]
2. The girl *win/wins* the prize! [The singular form of *win, wins,* is dictated by the noun phrase.]

In conjunction with phonology, morphology also contributes to the development of conventional spelling skills and reading (e.g., see Nagy, 2005; Stahl & Nagy, 2006). I shall save most of this discussion for the areas of reading and writing, covered in Chapters 7 and 8. The task here is to present a rational discussion of morphology that is instructive to the reader, especially with respect to the topics in the ensuing chapters. Let us begin with a discussion of free versus bound morphemes and move on to basic

morphological processes such as inflectional and derivational morphology. Along the way, concepts such as allomorphs and word families are covered. I will even consider the traditional concept of word classes (not necessarily as an integral part of morphology only). Although I am not a linguist, I suspect that this framework might not cause salivation in our virtual linguist; however, it should not cause hair loss or acid indigestion either.

Free and Bound Morphemes

A *free morpheme* represents the minimum notion of a *word* and can stand by itself. For example, words that cannot be divided further into other morphemes include *book, boy, cat, girl, no*, and *yes*. In other words (pardon the pun), these words cannot be broken down into smaller, meaningful grammatical parts. This is considered the base form of the word—often called a *root* or *stem* (e.g., see Crystal, 1995, 1997, 2006; Russell, Quigley, & Power, 1976). According to Crystal (1995):

> All we can do, in such cases, is describe what the words mean and how they are pronounced or spelled—such as the number of syllables they have, or the pattern of vowels and consonants they display (p. 198).

Bound morphemes are morphemes that cannot occur alone or in isolation, but need to be combined with at least one other morpheme (free or bound) in the formation of a word. Typically, bound morphemes are affixes such as prefixes (e.g., *in-, un-, dis-*) and suffixes (e.g., *-ly, -ment, -ness*). According to Crystal (1995), the use of prefixes in English is one way in which many new words are added or formed. Consider the formation of words such as ***un****happy* and ***dis****interest*. Suffixes can be categorized into two types: derivational and grammatical (or inflectional). Derivational suffixes (e.g., *-able*) change the meaning of the base form or word, such as *lov****able*** from *love*. Another function of suffixes is to indicate the (grammatical) use of a word in a sentence, such as plurality (e.g., *girl****s***) or past tense (*walk****ed***). These examples are inflectional suffixes or, simply, inflections (see also Curme, 1947, and Deighton, 1959, for a classic discussion).

Many of the difficult words of English are combinations of free and bound morphemes. Consider the following examples: *disinfectant* (dis- + infect + ant), *deodorant* (de- + odor + ant) and *reinvestment* (re- + invest + ment). There are also words that contain only bound morphemes. Consider the word *irrevocable*, which has four morphemes. Three of the morphemes

are affixes: two prefixes (*ir-* and *-re-*) and one suffix (*-able*). One bound morpheme is considered the root (*-voc-*); albeit, in this case, it cannot stand alone as do other root or base forms that are words.

A Little More on Affixes

Because of the importance of affixes in English language and literacy instruction, let us discuss them further. As will be seen in Chapter 5 on sign systems, affixes present a major challenge in the development and formation of signs—particularly sign markers (i.e., signs used to represent the affixes). In addition, research indicates that the concept of affixes is one of the most difficult language development areas for a number of deaf or hard of hearing children and adolescents to learn or internalize. Only a brief discussion is presented here; however, it should be clear to the future language or literacy teacher of deaf or hard of hearing individuals that a deep knowledge in this area is critical (and you should continue to learn about language as you teach).

As mentioned previously, a prefix is a type of affix that is attached to the beginning or to the left of a root or word part (typically, a free morpheme). Deighton (1959) constructed a list of about 70 commonly used prefixes, some of which have invariant meanings (i.e., only one meaning) and others with variant meanings (i.e., more than one meaning). Johnson and Pearson (1984) compiled a number of these prefixes that should be part of classroom instruction with respect to the ability level of students. For example, Johnson and Pearson (1984, pp. 129–130) recommended creative and meaningful instruction that focuses on the following prefixes.

Invariant Prefixes

apo-	apoplexy, apogee
circum-	circumnavigate, circumvent
equi-	equidistant, equilibrium
extra-	extracurricular, extrasensory
intra-	intravenous, intramural
intro-	introspection, introvert
mal-	maladjusted, malapropism
non-	nonentity, nonprofit
syn-	synagogue, synapse, synonym

Variant (More Than One Meaning) but Common Prefixes

bi-	bicycle, biannual
de-	dethrone, deactivate
fore-	forewarn, forecast
in-	inept (irresponsible, illegal, immaterial), indoors
pre-	preschool, preadolescent, precaution, prearrange
pro-	pro-war, pro-life, proceed, project
semi-	semicircle, semiannual, semiabstract, semiautomatic
re-	redraw, rearrest, recall, reaction
un-	unable, unbecoming, unlock, untie

I will have more to say about prefixes as part of vocabulary or word meaning instruction and how they relate to reading in Chapter 7.

A suffix is a type of affix that is attached at the end or to the right of the root or word part. As mentioned previously, there are two major types: inflectional and derivational. Inflectional morphological processes focus on the manner in which words can vary (or be inflected) for grammatical purposes. Examples include plurality (e.g., boy*s*, ox*en*), past tense (e.g., talk*ed*, rate*d*), third person singular (talk*s*, run*s*), possession (Peter*'s*), and comparison (fast*er*; fast*est*). Derivational suffixes create new words by changing the meaning of the base form—often leading to words in different word classes, such as nouns from verbs (e.g., educate to educa*tion*; break to break*age*), verb makers (deaf to deaf*en*; modern to modern*ize*), adjectives from nouns (e.g., point to point*ed*; friend to friend*ly*), adjectives from verbs (e.g., explode to explos*ive*; wash to wash*able*), or adverb makers (e.g., quick to quick*ly*; clock to clock*wise*) (Crystal, 1995, 1997, 2006; Deighton, 1959).

In essence, banking on the classic work of Deighton (1959), suffixes can indicate the word class (part of speech) of words to which they are attached or provide additional clues to the meaning of a word. Some common noun suffixes (derivational) include *-ance* as in *tolerance*, *-ence* as in *violence*, *-ation* (*-tion, -ion*) as in *motivation*, *ism* as in *behaviorism*, *-dom* as in *kingdom*, *-ery* as in *drudgery*, *-mony* as in *harmony*, and *-ment* as in *development*. Some common adjective suffixes (derivational) include *-est* as in *fastest*, *-fold* as in *tenfold*, *-scopic* as in *microscopic*, *-less* as in *helpless*, *-able (ible, -ble*) as in *lovable*, *-like* as in *lifelike*, *-ous* as in *joyous*, and *-ful* as in *playful*.

It is recommended that the teacher include the common suffixes above and others as part of language and literacy instruction, including the area of vocabulary, in both domains. One of the goals is to provide students with a tool for figuring out the meanings of unknown or slightly known words. The merits of this type of instruction, also known as structural analysis, are discussed briefly in Chapter 7 of this text.

Allomorph

Previously, I mentioned the term *allophone*, in the discussion of phonology. We also have *allomorphs*, which are the variant forms of a morpheme, and which complicate this business of understanding morphology. For example, a morpheme (e.g., the plural morpheme) may assume variant shapes with respect to the words to which it is attached. These different shapes are called allomorphs of the morpheme. The plural morphological structure can be expressed as follows: *-s* as in *girls*, *-es* as in *boxes*, *-en* as in *oxen*, *-ren* as in *children*, and by a change of internal vowel as in *men* or *women*. Because of the influence of phonology, *morphophonology* is the study of the manner in which allomorphs are selected and represented in conventional orthography (e.g., sequence of letters). Another common example is the pronunciation and expression of the past tense morpheme, as in words such as *walked*, *rated*, and *jumped*.

For me, the most interesting example is the phonetic forms associated with the past tense morpheme, such as *-ed*. This is of interest because, as we shall see in Chapter 5 regarding sign systems, the past tense morphemes (and others) have caused considerable debate on how these variations (especially for irregular verbs) should be represented by the use of the so-called sign markers (i.e., signs for morphemes—inflectional or derivational). The situation here is as follows. The past tense morpheme (*-ed*) has three different pronunciations: *id* as in *wanted* because the preceding sound is */d/*, *t* as in *balked* because the preceding sound is voiceless, and *d* as in *bowled* because the preceding sound is voiced. Should each of these examples be represented by a different sign (i.e., sign marker), or should the same sign/marker be used for all examples? What is the rationale for this decision? Does it affect students' awareness of both the phonology and morphology of English? These have been and still are critical questions for the developers of the various sign systems, especially given the influence of both phonology and morphology on the development of English literacy.

Word Family

The placement of words in a family is based on the root form of a word; for example, *bio* (life), *geo* (earth), *sect* (cut), *dict* (speak), *micro* (small), and *struct* (build). This concept is also often considered an effective teaching strategy that assists students in remembering words and in figuring out what a word could possibly mean. Specifically, this is one strategy that might contribute to the awareness of words and word parts (e.g., Stahl & Nagy, 2006). One scholar who has focused intensely on the development and instruction of this strategy is O'Rourke, from whose 1974 work the following two examples are taken.

> Knowing the Greek root *phil* (love) as in *phil*osopher (lover of wisdom) helps the student generalize or remember the meaning of other *phil* words such as *phil*anthropist (lover of mankind). Thus a *phil*atelist 'loves' stamps. People who 'love' harmony or good music may listen to *phil*harmonic orchestra. A flower that 'loves' the shade is the *phil*odendron—from Greek dendron—tree (i.e., tree-loving). *Phil*adelphia is called the 'city of brotherly love', from *phil* (love) + *adelphos* (brother). The transfer potential is great. The list may go on—*Anglophile*, *Francophile*, *philology*, *philogeny*, *philander*, etc. (p. 101).

The next example involves words with the root *gyn,* meaning woman. As you might have guessed, the list is practically endless: misogyny, philogyny, gynandrous, gynogenesis, gynecology, gynephobia, monogyny, gynecoid, gynospore, gynecocentric, gynocracy, polygyny, gynophore, gyniatrics, gynarchy (O'Rourke, 1974, p. 113).

With a little effort, you might improve your scores on those timeless *Readers' Digest* vocabulary tests! Kidding aside, it should be clear that the examples on word family above should provide insights into the argument, offered by some scholars, that knowledge of morphology (i.e., via structural analysis) might assist in developing rapid word identification skills and in expanding knowledge of word and word parts for readers and writers. For example, with this type of knowledge in hand, it is suspected that students would use a wide variety of and more creative words in their written language productions. There is still a great deal of controversy surrounding these assertions. It is not clear just how much knowledge a reader and writer needs with respect to morphology or morphological awareness.

Controversy notwithstanding, it seems that a little knowledge can go a long way. In fact, O'Rourke (1974) argued that students become more sensitive to the idea of word parts and even begin to speculate on words that could be words, but may not be real words (i.e., made-up words that do not violate phonological or morphological principles). With a little practice (and some courage), it is possible for students to benefit from a basic understanding of word families. Consider one last example of this idea: the root *cred* means *believe* and contributes to the meaning of the following words (O'Rourke, 1974, p. 67):

*cred*it
*cred*o
*cred*itor
*cred*ence
ac*cred*it
*cred*entials
*cred*ibility
*cred*itable
*cred*ulity
in*cred*ulous
dis*cred*it

Shall we test your knowledge of the above words? Did knowing the meaning of *cred* assist you in figuring out the meanings of words that you did not know on the list above? Of course, in words such as *incredulous* and *creditable*, it would be helpful to know the meanings of the other affixes. In my view, knowledge of word parts contributes immensely to the overall knowledge of word meanings (see Stahl & Nagy, 2006).

Morphology is becoming an increasingly important topic for understanding the development of language and literacy skills, particularly with respect to words and word meanings. **Table 2-2** highlights the major points of our discussion of morphology.

Word Classes

By now, the reader either has a deeper appreciation of the complexity of language or a major headache. It is permissible to ask: Why in the world are we discussing word classes (or parts of speech)? The following discussion

Table 2-2 Highlights of Morphology

- *Morphology* is the study of morphemes—the smallest segment of speech that carries meaning.
- Morphology is concerned with the internal structure, or parts, of words.
- *Allomorph* refers to the possible phonetic forms of a morpheme. As an example, the English possessive ending, spelled *s*, has three allomorphs: /*s*/, /*z*/, and /ə*z*/. The particular allomorph that is used depends on the final sound of the word.
- *Inflectional morphology* is the study of word variations, or inflections, such as plurality (girl, girl*s*) and tense (walk, present; walk*ed*, past). Thus, *inflections* refer to changes in the root or base word (i.e., uninflected, citation form) to express syntactic functions and relationships. These changes do not affect the meaning of the root or base word.
- *Derivational morphology* deals with the construction of new words, typically via additions of specific morphemes (e.g., *in-*, *re-*, *-ment*, *-ness*). Derivational morphemes may change the meaning of a word, as in *clear* and *unclear*, or indicate the part of speech (form class) of a word, for example, noun suffixes such as *-ance* in *tolerance* and *-dom* in *freedom*. It should be clear that these are examples of different words, each with its own grammatical properties or aspects.
- An *affix* is considered to be a bound morpheme; that is, a morpheme that cannot occur alone or in isolation. A prefix is a type of affix that is attached to the beginning or to the left of a word stem, as in *re*issue, *un*happy, and *in*complete. A suffix is attached to the right of the word stem, as in judg*ment*, lov*able*, and like*ness*.
- A *free morpheme* represents the minimal notion of a word. Examples of free morphemes are *cat, dog*, and *box*.
- *Word family* refers to the grouping of words based on the root form of a word. The root form *cred* leads to the grouping of words such as *credit, credence, credentials*, and *credibility*.

Note: For additional information, see Deighton (1959), O'Rourke (1974), and Johnson & Pearson (1984).

should be viewed as a brief introduction to the concept and importance of word classes.

Perhaps the most critical reason for discussing word classes is to obtain a basic understanding of how words behave or function in sentences. Surprisingly, some teachers of deaf or hard of hearing children (and other areas of disabilities) still tend to use word classes (parts of speech) as part of their language instruction approaches (see Chapter 10). I am not a big fan of teaching the formal labels, such as *nouns* or *adjectives*, although it might be helpful to use these labels for descriptive purposes. Nevertheless, there is a need to discuss how a word functions, whether we use labels or not.

Consider the following sentence: *The fat man loves to type*. Children need to understand the functions of words such as *the* and *fat* in this sentence.

These words tell us something about *man* in the previous sentence and, often, the type of the subsequent words that occur in similar sentences. For example, when a word such as *the* is used, we expect the next word in the sentence to function as an adjective or a noun (e.g., *fat* and *man*). In our example, we can say that the words *the* and *fat* describe (or qualify or modify) *man*. Let us not forget that the meaning of the phrase *The fat man* is also affected by the pronunciation of *The* (definite or infinite as a result of the vowel sound)!

The danger for the teacher is to state strongly and emphatically that *fat* is an adjective and *man* is a *noun*. Rather, it is better to make remarks about the *roles* of *fat* and *man* in this sentence. Otherwise, we run into situations that can cause embarrassing moments, as shown by the following sentences:

- *Fat is an ugly word.* (*Fat* is a noun.)
- *Man, oh man, why did I do that?* (*Man, oh man* functions as an interjection similar to *oh* and *alas*.)
- *We need to cut off the fat of the beef.* (*Fat* is a noun, which has a different meaning than its adjectival function in the phrase *fat man*.)
- *She seems to have man-like strength*. (*Man* is part of *man-like* and functions as an adjective.)

It is possible to categorize words into word classes, traditionally known as parts of speech. Although there are disagreements among linguists, many of them agree that there are at least eight categories or classes of words: nouns, pronouns, adjectives, verbs, prepositions, conjunctions, adverbs, and interjections (e.g., Crystal, 1995; Curme, 1947).

Providing definitions of word classes is downright difficult, as was the case in traditional grammarian approaches. For example, one might encounter the description that a noun is the name of a living substance or being or lifeless thing. Thus, examples of nouns include *boy*, *girl*, *newspaper*, *Jeremy*, *Marianne*, *horse*, *New York*, and *courage*. These definition attempts have been criticized as being vague or incomplete. Linguists (real and virtual) started asking questions such as *Is courage a thing?* The recent focus has been on describing the manner in which the structural features of words behave in a particular sentence, as indicated previously. Thus, articles (in the adjective class) such as *a*, *an*, *the* (i.e., determiners) indicate that the next word is or might be a noun, as in the following items: *a car, the newspaper, an apple*.

The notion of word class is useful for students if it is clear to them that all words within a particular class behave in the same way. For example, all words in the noun class should behave similarly. Any grammatical operation (e.g., plurality, possessive) performed on one word within this class could also be performed on the other words. It might also be useful to categorize further the words in each class. For example, in the noun class, we can discuss common nouns (e.g., *parent, teacher, cow, plant, courage*), proper nouns (e.g., *Chicago, Shakespeare, Sunday*), common nouns that can be used as proper nouns (e.g., *Life* is funny) and proper nouns that can be used as common nouns (e.g., He is an *Einstein*). One recent focus for scholars of English has been on distinctions (i.e., distinctive features) such as masculine/feminine and human/nonhuman. For example, the pronoun *he* can be classified as masculine and human.

Keep in mind that it is sometimes difficult to identify the class of words in isolation. This is why it is important to discuss the function or behavior of words in specific sentences, not in isolation. Consider the examples for the word *run* in the following sentences.

1. I *run* every hour.
2. There is a *run* in my stocking.
3. Mary likes to *run*.
4. Sosa hit a home *run* yesterday!
5. I *run* into Bob quite often.

Table 2-3 illustrates examples of words in the eight broad word classes or parts of speech. For detailed discussions of word classes and traditional parts of speech categories, see Crystal (1995) and Curme (1947).

A Final Word About Morphemes

In one sense, an understanding of morphology (or even phonology, syntax, or semantics) might not really be complete without a good understanding of what a word is. However, questions such as *What is a word?* or *What is a word meaning?* and even *What is a meaning?* have been the topics of ongoing linguistic and philosophical debates, which—albeit interesting and important—are beyond the scope of this text. It is downright difficult to answer a *What is* question in 25 words or less.

As mentioned previously, the study of morphology is important for understanding the development of the English sign systems (e.g., signed

Table 2-3 Examples of Word Classes

Examples of Words That Can Function as Nouns
apple, baseball, beauty, Capitol, cat, courage, development, the *drive*, education, elephant, foolishness, herd, honesty, Kleenex, metatheory, nation, newspaper, Ohio, the *plant*, the *project*, theory, truth, virtue, White House, woman, running, walking, wisdom, writing, youth

Examples of Words That Can Function as Pronouns
I, me, thou, he, she, it, we, us, they, them, myself, ourselves, yourself, yourselves, himself, herself, itself, themselves, each other, one another, that, which, who, whom, whose, whatever, whichever, whoever, whomever, anybody, anyone, anything, nobody, nothing, somebody, someone, something, somewhat

Examples of Words That Can Function as Adjectives
a, an, the, this, that, these, those, *runny* nose, *broken* car, *up-to-date* book, sick, tired, exhausted, dying (man), hopeful, childish, cold-blooded, my, his, her, their, your, first, second, last, another, few, several, a *Yale* supporter, *American* universities

Examples of Words That Can Function as Verbs
love, kiss, hug, squeeze, hit, struck, is *kissing*, is *hitting*, act, *do* it, *bark* at, *chase* the car, drive, dream, am, is, are, become, was, were, will, should, need, seem, look, see, feel, get, jump, skip, hop, ride, go, precede, proceed, follow, take, think, metatheorize, educate, teach, instruct

Examples of Words That Can Function as Prepositions
after, around, at, *before* dinner, behind, by, for, from, in, into, of, over, under, with, within

Examples of Words That Can Function as Conjunctions
and, because, but, if, for, or, both . . . and, as well as, either . . . or, neither . . . nor, not only . . . but also, too

Examples of Words That Can Function as Adverbs
almost, around, fast, firstly, happily, here, *How* did she do that?, immediately, lovingly, now, often, once, so, soon, then, there, twice, *undoubtedly* a smart woman, very, well, *When* will we eat?, yesterday

Examples of Words That Can Function as Interjections
alas, gosh, oh, Ouch!, Why!

Note: For additional information, see Curme (1947) and Crystal (1995).

English, signing exact English) used with deaf and hard of hearing children. The various sign systems are purportedly based on the morphosyntactic properties of standard, written English; however, the developers have had to make some difficult decisions, some of which do not seem to be supported by our current understanding of morphology and some of which are not

really consistent with the so-called rules associated with the various systems. Nevertheless, the reason several sign systems exist is that the systems have different morphological rules for executing signs, including the use of inflectional signs as well as the construction of new signs via sign markers (similar to derivational morphemes). More important, the differences across the sign systems seem to be arbitrary (i.e., based on the perceptions of their creators) and are not reflective of dialectical differences that are often associated with a language. What all of this means for students who are attempting to learn the structure of English is explored in Chapter 5.

As valuable as morphology and phonology are, they are not sufficient for acquiring a workable understanding of English. Do not get me wrong: these two components contribute immensely to our understanding, but something *more* is needed. We can debate the *more*, but according to an influential linguist (Chomsky), the *more* is shaped pervasively by the order of the words in sentences—that is, syntax. Nevertheless, as is shown in the ensuing paragraphs, there is more to syntax than simply understanding the order of words in sentences. Syntax may tell us quite a bit about how the mind works, especially with respect to language acquisition. This is the topic of the next section.

THE STRUCTURE OF SENTENCES

It should be easy to convince you that syntax plays a critical role in language comprehension. Consider the following words, presented in no particular order:

bit, The, dog, boy, by, was, the

Now consider the following sentences that can be produced with respect to a particular order of the same words:

The dog was bit by the boy.
The boy was bit by the dog.

It should be clear that the order of the words determines what meaning should be accepted. One order results in one interpretation; another order results in a different interpretation. An individual might understand the meanings of the individual words or phrases; however, he or she needs to pay attention to the order to obtain an understanding of the meaning of the sentence.

Syntax refers to rules that govern the order or arrangement of words. This arrangement reveals meaningful relationships within and between sentences—that is, the arrangement concerns word order, sentence organization, relationships between words, and so on. Similar to the issue of *word*, discussed previously, it is difficult to define a *sentence* with respect to traditional terminology such as *subject* (i.e., topic) and *predicate* (i.e., what is said about the topic). Obviously, this is not a problem for some sentences, such as *I am happy* or *Mary is an intelligent woman*. It is difficult, however, to use these traditional notions for sentences such as *It's raining* or *It's a wonderful life.* In addition, the topic may not really be clear in sentences with the following construction: *Paul asked Peter for a computer*. It is possible to argue that there are three topics: *Paul, Peter*, and the *computer*!

Perhaps a better way, albeit still not perfectly clear, to describe a sentence is that it must contain at least a noun phrase (NP) and a verb phrase (VP). A noun phrase contains at least a noun, with the option of one or more determiners (e.g., adjectives). The NP may also contain an embedded sentence and other NPs, as well as VPs, within the framework of transformational generative grammar. A verb phrase consists of an auxiliary (e.g., modal, tense, or aspect) and a verb, and may contain noun phrases, embedded sentences, and prepositional phrases.

Consider the following examples.

1. *The young boy runs fast*.
2. *That color is ugly for a car*.

In sentence 1, the NP contains two determiners (*The* and *young*), which describe the quality of the noun *boy*. In sentence 2, there are actually two NPs: *That color* and *a car*. In the first NP, *that* is a determiner, which describes the noun *color*. The second NP (*a car*) is part of the VP *is ugly for a car*. The word *a* is the determiner, and *car* is the noun. In this sentence, the VP contains a preposition (*for*) and an NP (*a car*). In the first sentence, the VP is *runs fast*, which contains a verb and auxiliary (*runs*; *run* + *s*) and an adverb (*fast*).

With respect to sentences, syntax rules specify the word combinations that are acceptable, or grammatical, and which combinations are not. For example, in the following sentences, sentence 1 is grammatically acceptable whereas sentence 2 is not.

1. *The storyteller told a story*.
2. *Storyteller The story told a*.

As mentioned previously, each sentence should contain a noun phrase and verb phrase, and the rules of syntax specify the elements (e.g., word classes) as well as the relationships between the two phrases. In sentence 1, *The storyteller* is the noun phrase and *told a story* is the verb phrase.

Most syntactic investigations have focused on the relations expressed at the sentence level (i.e., sentence comprehension). This is "where the most important grammatical relationships are expressed" (Crystal, 1997, p. 94).

Linear and Hierarchical Categories

For the purposes of this text, it is useful to divide syntactic relations into two major categories: linear and hierarchical. Although descriptions of these terms vary (e.g., see Crystal, 1997), *linear structures* are defined here as being fairly simple constructions that can be interpreted in a left-to-right fashion, for example, subject-verb-object (SVO), as exemplified by the following sentences:

1. *The boy hit the ball.*
2. *Mary read a book.*
3. *John gave Mary a rose.* (Well, this is a little complicated! Can you guess why?)
4. *The man smoked a pipe.*
5. *The woman drove a truck.*

Hierarchical structures are complex and cannot be interpreted in a simple SVO fashion. Consider the following sentences as examples.

6. *The boy who kissed the girl ran away.*
7. *The light on the blue police car turned.*
8. *The girl was mauled by the pit bull.*
9. *Visiting professors can be boring.*
10. *That the man was sad was perceived by the woman.*

The competent language user understands that the subjects of sentences 6 and 7 are *The boy who kissed the girl* and *The light on the blue police car*, respectively. These subjects are also noun phrases, as discussed previously. In sentence 8, *the pit bull* is the performer of an action, whereas *the girl* is the recipient. Sentence 9 is ambiguous; that is, there are at least two interpretations:

Professors who visit can be boring and [The act of] *visiting professors* can be boring. There is also a third interpretation that depends on knowledge of the academic position of visiting scholar or visiting professor, as discussed previously. A person who is a faculty member from one university and who has been invited to another different university to teach classes and so on might receive the title Visiting Scholar or Visiting Professor. These *visiting professors* can, unfortunately, be boring. In sentence 10, *the woman* is the person who performs the act of perception. In addition, it is clear to the native user of English that it is not *sadness* nor *the man* that is perceived; rather, it is *the sadness of the man*.

The issue of noun phrase and verb phrase can become quite complicated in hierarchical, embedded sentences if one ascribes to the notion of transformational generative grammar or its recent renditions (Carruthers et al., 2005, 2006; Chomsky, 2006). Consider the following example:

The man who is beating the drum plays the violin.

In this sentence, we have a main NP and a main VP as follows:

NP = *The man who is beating the drum*
VP = *plays the violin*

According to the tenets of transformational grammar, the relative clause *who is beating the drum* is part of an embedded sentence structure representing *The man is beating the drum*. Thus, before applying the transformation (i.e., the relative clause transformation), we have two additional NPs:

NP = *The man* (referring to *who*)
NP = *the drum*

Also within the embedded sentence, we have a VP: *is beating the drum*. This VP contains a verb plus auxiliary (*is beating*) and an NP (*the drum*), mentioned previously. The main VP, after the main NP, contains a verb (*plays*) and an NP (*the violin*).

Now that the reader has become somewhat skilled in parsing NPs and VPs, perhaps she or he can explain (i.e., parse) the following grammatical sentence (for fun, of course):

It must have appeared to my students that I have lost my mind although I thought that I had tried awfully hard to disprove that notion.

You probably feel like our virtual salivating linguist, or like someone who is about to have a nervous breakdown. Nevertheless, there are at least two important reasons for the discussion of linear and hierarchical syntactic structures. One concerns the question of how to *sign* such phrases so that students who are deaf or hard of hearing can be exposed to such constructions. This issue, which is extremely complicated, is discussed further in Chapter 5. The second issue is how to *teach* these structures (see Chapter 10), especially when students have either not been exposed to them in face-to-face interactions or the intended exposure did not produce the desired effect (i.e., students do not use or do not really understand the specific structures).

In essence, many deaf and some hard of hearing students have had enormous difficulty comprehending hierarchical sentences, especially on a sentential level (e.g., see review in Russell, Quigley, & Power, 1976) and even within the context of stories. There are several reasons for this issue, which will be discussed later in this text. One prominent reason is as follows: students tend to apply, indiscriminately, a subject-verb-object strategy to interpret sentences. Consider the following two sentences:

1. *The boy who kissed the girl ran away.*
2. *The light on the blue car turned.*

In these sentences, it is not uncommon for students to state that it was the girl who ran away (sentence 1) and that it was the car that turned (sentence 2).

Much of the research on syntax and deafness has been conducted by Quigley and his collaborators (e.g., see Russell, Quigley, & Power, 1976; see also Chapter 7) and has involved major syntactic structures such as negation, conjunction, question formation, pronominalization, reflexivization, verbs, complementation, relativization, and nominalization (see **Table 2-4** for examples of these structures).

Chapter 3 discusses the influence of syntax on our conceptions of the mind via Chomsky's framework. Reactions to Chomsky's view of syntax per se have catapulted two other components of language—semantics and pragmatics—into the limelight. These two components have captured the attention of a number of psycholinguists and other researchers who are

Table 2-4 A Few Examples of Syntactic Structures

Structure	*Examples*
Negation	The woman can *not* go to the opera.
	The girl did *not* see the movie.
	The man does *not* have any money.
Conjunction	*John and Mary* ran a marathon.
	The boy *caught and cleaned* the fish.
	The day is *dark and gloomy*.
	I *write books and play the flute*.
	The man likes *ice cream and cookies*.
	The soldiers move *quickly and quietly*.
Disjunction and alternation	I read the book, *but* you did not.
	The food was delicious *but* cold.
	He is *either* crazy *or* intelligent.
	Either Mary Beth *or* I will play the piano.
Question formation	Do you like to drink coffee?
	Were you at the movies yesterday?
	Where is my pipe?
	What are you talking about?
	You ate the cookie, didn't you?
	The boy doesn't look happy, does he?
Pronominalization	Jerry is my friend and *he* lost some books.
	He is my friend and Jerry lost some books.
	The man who saw Mary kissed *her*. (ambiguous!)
Reflexivization	I think the woman shot *herself* in the foot.
	You should have faith in *yourself*.
	I did this *myself*.
Verb processes (e.g., passive voice)	The dog was washed by the boy.
	The dog was bit by the cat.
	The window was broken.
Complementation	*That Mary was happy* disappointed Stephanie.
	It disappointed Stephanie *that Mary was happy*.
	For Jean to be happy is highly unusual.
	It is highly unusual *for Jean to be happy*.
	Erik knows *Peter is a hard worker*.
Relativization	I saw the boy *who jumped*.
	The boy *who kissed the girl* ran away.
	The man *whom the woman hit* was unhappy.
	I saw the boy *whom the girl kissed*.
Nominalization	*The sound of the siren* shocked the little boy.
	The boy's laughter was heard for miles.
	The people heard *the screams of the little girl*.

Note: For additional information, see Russell, Quigley, & Power (1976).

interested in understanding how a child develops language, especially within a social-interactive milieu (e.g., sociolinguists). We consider semantics—that is, meaning in language—in the next section.

THE STRUCTURE OF MEANING

Semantics is the study of meaning *in* language (Lyons, 1995; Pence & Justice, 2008). To simplify, meaning can occur at several levels: word (or word parts), phrase, sentence, and beyond the sentence (i.e., passages or stories). It can be argued that comprehension, whether of speech, print, or other media, is essentially the construction of meaning or, even, the construction of reality—especially in the mind.

Meaning, of course, is difficult to define and just as difficult to assess. There seems to be no question that meaning is critical in order to understand language acquisition; yet, it might be surprising to most readers to learn that linguists have only recently seriously considered the role of meaning in language. Meaning has appeared at the front of the stage not only for language acquisition, but also for the acquisition of reading or reading comprehension. With respect to reading, it is the meaning of words—that is, vocabulary knowledge—that has a strong relationship to reading comprehension (Nagy, 2005; Paul, 1996a; Stahl & Nagy, 2006).

Chapter 3 contains a brief discussion of the influence of semantic theories on language acquisition. However, as implied above, one of the most interesting and critical areas within semantics is how children acquire word meanings—that is, the development of their lexicons. In addition, it is important to understand how the information about words is stored and retrieved for specific language and literacy purposes. These are areas of intense research (e.g., Hiebert & Kamil, 2005; Pence & Justice, 2008; Stahl & Nagy, 2006) and considerable controversy.

With respect to the organization and retrieval of words, researchers have focused on the notions of semantic features and selection restrictions (e.g., see discussions in Crystal, 1995, 1997, 2006; Lyons, 1995). *Semantic features* refer to the aspects of meaning that define or characterize the word. For example, the semantic features of *father* include *parent* and *male*. One of these two features (*parent*) is shared with the word *mother*, and the other with *man*. In this example, neither word, *father* or *mother*, shares both features, and, of course, there need to be unshared features in order to have different words.

Selection restrictions refer to features (often formulated as rules or conventions) that prohibit certain word combinations due to the meaninglessness

or even redundancy of these combinations. It is not difficult to create examples: *female mother*, *male father*, or—my favorite commercial slogan (from quite some time ago)—*Raid kills roaches dead*.

The notion of semantic features has become operationalized in the field of literacy with the widespread classroom use of semantic elaboration techniques such as word maps, semantic maps, semantic feature analysis, word webs, and semantic webs (see lucid examples in Heimlich & Pittelman, 1986; Pearson & Johnson, 1978). It is sometimes forgotten that features are also important for understanding other instructional notions such as synonyms, antonyms, analogies, and categorization/classification (see **Table 2-5** for additional discussions and examples of these terms).

There has been some research in the field of deafness on vocabulary development, including the acquisition of words with multiple meanings (polysemy) (e.g., see Paul, 1996a, 1998). Although this line of research has contributed to our understanding of semantic development as well as of the importance of vocabulary knowledge for reading comprehension, future researchers need to be concerned with determining how words—lexemes or lexical items—are processed, organized, and retrieved from the mind (e.g., see a readable account in Aitchison, 1994).

Aside from contributing to our understanding of general language acquisition, further developments in this area should increase our knowledge of word identification in literacy. That is, there seems to be research showing that vocabulary knowledge not only contributes positively to reading comprehension but also affects phonological and morphological development (e.g., Nagy, 2005; Stahl & Nagy, 2006). As discussed in Chapter 7 (see also Paul, 1998), there seems to be some confusion between word identification skills (phonics, structural analysis, etc.) and lexical access processes, even though there might be a relation between these two entities. Specifically, it is the nature of children's lexical access processes that has determined the importance of phonemic awareness in English reading and has led to the debate on how and whether phonemic awareness can and should be taught. This debate is also applicable to deaf and hard of hearing children, and it offers a compelling explanation for the difficulty that many children have in learning to read and write well.

In essence, research on lexical access has been concerned with the nature of the retrieval routes for accessing words from memory. Good language users as well as good readers and writers need to be aware of more than just the semantic features of words in order to develop rapid, automatic word identification skills or to use their mental lexicon as a major source of

Table 2-5 A Sample of Semantic Features, or Aspects

Term and Description	*Examples*
Synonyms: Words that have similar but not identical meanings	*happy*, *glad*; *unhappy*, *sad*; *large*, *big*; *smart*, *intelligent*
Antonyms: Words that are opposite or nearly opposite in meaning	*hot*, *cold*; *dull*, *sharp*; *big*, *small*; *smart*, *dumb*; *night*, *day*
Analogies: Problem-solving activities requiring judgments about the relationships among two pairs of words	Examples from Johnson & Pearson (1984, p. 47) include the following: 1. Characteristics: Rain is to wet as sun is to dry. 2. Part to whole: Leaf is to tree as feather is to bird. 3. Whole to part: Cup is to handle as clock is to hands. 4. Location: Teacher is to classroom as sailor is to ship. 5. Action to object: Run is to track as swim is to pool. 6. Agent-action or object: Teacher is to students as doctor is to patients. 7. Class or synonym: Smell is to sniff as see is to look. 8. Familial: Uncle is to nephew as aunt is to niece. 9. Grammatical: Hear is to heard as look is to looked. 10. Temporal or sequential: Fifth is to first as twenty-fifth is to fifth. 11. Antonyms: Smile is to happy as frown is to sad.
Classification: Arrangements of words, ideas, pictures, or objects into groups or categories based on specific (predetermined) criteria	Class/Example Food: *carrot*, *milk*, *hamburger*, *potatoes*, *bread* Vehicles: *car*, *bus*, *train*, *bicycle*, *truck* Mammals: *cats*, *bats*, *horses*, *pigs*, *humans* Word/Feature Car: *tire*, *window*, *door*, *hood*, *engine* Elephant: *trunk*, *tusks*, *tail, legs*, *ears* Computer: *monitor*, *keyboard*, *mouse*

Note: Other types of semantic aspects include word maps, semantic maps, and semantic feature analysis. See Johnson & Pearson (1984) for more details. See also Chapter 7.

comprehension in language use. Ehri (1991) provided an eloquent description of lexical access for language users and readers/writers:

> Speakers of a language possess a *lexicon*—that is, a store of words held in memory. When people read words by sight or lexical access, they utilize information that is remembered about the words from previous experiences reading these words. Upon seeing the spellings, readers access the identities of the words in memory. These identities include the word's pronunciation, its meaning, its syntactic identity (i.e., its typical grammatical role in sentences), and its orthographic identity (i.e., information remembered about its conventional spelling) (p. 384).

There are wide-reaching influences associated with the study of semantics. For example, in psychology, there are a number of memory models involving the use of notions such as networks, frames, and scripts (see Johnson-Laird, 1988; Rumelhart, McClelland, & the PDP Research Group, 1986; Shadbolt, 1988). These knowledge or memory models have had a tremendous influence on theories of reading acquisition (e.g., see Samuels & Kamil, 1984; Snowling & Hulme, 2005) and on the thought/language debate in language acquisition (see Chapter 3). Semantics is also a major aspect in many theories of cognitive development. In fact, there is considerable overlap between cognitive and semantic developments in the early language acquisition of children (e.g., see Pence & Justice, 2008). In this text, the major concern with semantics is with the development of the mental lexicon, including concepts and polysemy (i.e., multiple meanings of words).

THE USE OF A LANGUAGE

Pragmatics is the study of the use of language, particularly within a communicative situation, milieu, or context (e.g., see readable discussions in Crystal, 1997; Owens, 1996, 2004). Two philosophers who have played an influential role in our understanding of pragmatics are Austin and Searle. Austin (1962), a British philosopher, was one of the first scholars to focus attention on functions of speech utterances (known as *speech acts*) in social interactions. These utterances are considered actions (i.e., *performatives*). Examples include statements that contain the words *I believe*, *I promise*, and *I apologize*.

For a speech act to be valid (or meaningful), certain conditions must be met or satisfied. For example, if a child utters *Help me*, there needs to be a situation in which she or he needs help, and there needs to be a person who can

help. The importance of pragmatics becomes painfully obvious in many children with language disorders—especially children with autism—who may not have developed a framework for understanding language use in social interactions (e.g., Bernstein & Tiegerman-Farber, 2004; Owens, 2004).

Not all utterances are performatives. Consider statements such as the following:

1. *Mary should apologize for that stupid remark!*
2. *John ought to give back some of his money*.

In these examples, sentence 1 does not constitute an apology and sentence 2 does not mean that John will give back some of his money. These statements are merely *opinions*.

Searle (1976) has studied extensively the effects of speech utterances on the behaviors of both speakers and listeners. His theory of speech acts, particularly his classification of illocutionary acts (acts performed after the speaker's utterances), has influenced a long line of research on pragmatics, especially in children who attempt to deal with language ambiguity by asking for clarification (see Ninio & Snow, 1996; Owens, 2004). Although there are a number of possible illocutionary acts, there have been attempts to develop a small number of categories. Searle (1976) has delineated five basic types: representatives, directives, commissives, expressives, and declarations, as described briefly below.

1. *Representatives:* The speaker/presenter is committed, in varying degrees, to the truthfulness of a proposition. For example, the speaker/presenter might affirm, warn, document, or deny something.
2. *Directives:* The speaker/presenter attempts to persuade a listener/receiver to perform an act. For example, the speaker/presenter might render a request, demand, or challenge.
3. *Commissives:* The speaker/presenter is committed, in varying degrees, to performing a particular act or course of action. For example, the speaker/presenter might guarantee, vow, or promise.
4. *Expressives:* The speaker/presenter expresses an attitude about a particular state of affairs. For example, the speaker/presenter might use language to express an apology or gratitude (thanks), to welcome or congratulate someone, or to express regret or disgust.
5. *Declarations:* The speaker/presenter alters or modifies the current situation (i.e., status or condition) solely by making an utterance, such as *I resign or quit*, *I declare you to be. . .* , or *You're promoted!*

As discussed in Chapter 3, a number of scholars have argued that the social function of language (i.e., pragmatics) is critical in determining the form of the utterances. Clearly, any description of language needs to include a discussion of pragmatics. Indeed, it has been argued that language only develops as a consequence of social and communicative interactions (see Owens, 2004; see also Chapter 3).

In addition to investigating purposive and intentional communicative interactions, researchers have focused on how children learn to adapt to a listener's knowledge and perspectives with strategies such as asking for clarification or requesting information (e.g., see reviews in Ninio & Snow, 1996; Owens, 2004). This is critical for repairing what is often called communicative breakdowns. A number of pragmatic behaviors have been identified in the communicative interactions of young children; for example, requesting, showing off, labeling, repeating, negating, and so on (e.g., Thompson, Biro, Vethivelu, Pious, & Hatfield, 1987; see discussions in Owens, 2004; Pence & Justice, 2008). Descriptions of some of these behaviors are as follows (Thompson et al., 1987, pp. 11, 13):

> *Requesting:* Solicitation of a service from a listener.
>
> *Repeating:* Repetition of part or all of previous adult utterance. Child does not wait for a response.
>
> *Negating:* Denial, resistance to, or rejection by child of adult statement, request, or question.

Owens (1996; see also Owens, 2004) provided a good, readable description of the range of research in the area of pragmatics, especially with respect to the maintenance and repair of communicative interactions:

> [P]ragmatic rules govern a number of conversational interactions: sequential organization and coherence of conversations, repair of errors, role, and speech acts. . . . Organization and coherence of conversations include taking turns; opening, maintaining, and closing a conversation; establishing and maintaining a topic; and making relevant contributions to the conversation. Repair includes giving and receiving feedback and correcting conversational errors. The listener attempts to keep the speaker informed of the status of the communication. If the listener doesn't understand or is confused, he might assume a quizzical expression or say, "Huh?" Role skills include establishing and maintaining a role and switching linguistic codes for each role. In some conversations you are dominant,

> as with a small child, and in others you are not, as with your parents, and you adjust your language accordingly. Finally, speech acts include coding of intentions relative to the communicative context (p. 25).

There seems to be some overlap between pragmatics and other language components or areas of language inquiry. For example, both pragmatics and semantics are concerned with the intentions of the language user and the background knowledge about the world of both speakers and listeners as they interact. There are also overlaps between pragmatics and areas such as psycholinguistics and discourse analysis (e.g., Crystal, 1997). The analysis of conversations, for example, is within the purview of both pragmatics and discourse analysis.

In sum, pragmatics is not considered a part of language structure (or form) in the same way as phonology, morphology, syntax, and semantics are. A good illustration of this assertion can be seen in the fact that pragmatic errors do not affect the rules of these other language components. Nevertheless, pragmatics is intricately connected to the other language domains and should be considered an integral part of any language intervention program (e.g., Owens, 2004).

Table 2-6 summarizes the major highlights of pragmatics and includes other pertinent information related to this language domain.

THE FUNCTIONS OF LANGUAGE

In Chapter 1, I mentioned that there are several functions of language, which contribute to the impetus for and process of language acquisition or development. The most conspicuous recognized functions seem to be the communication of ideas (i.e., speaking/signing or writing), especially during social intercourse, and *thinking*—that is, the use of language as a tool for thought (Cairns, 1996; Cromer, 1988a, 1988b, 1994; Lund, 2003; Pence & Justice, 2008). Other uses of language—some of them transparent or not always apparent—include the expression of emotions, the control of reality, and the expression of identity. The emphasis in this section is on communication, social interactions, and identity.

Communication of Ideas

Perhaps the best way to illustrate the function of the communication of ideas is to state the classic definition given by Bloom and Lahey (1978), which provided the framework for the discussion of language structure previously

Table 2-6 A Few Highlights of Pragmatics

- *Pragmatics* is the study of the use of language, particularly within a communicative situation, milieu, or context.
- Pragmatics guides the use of language during social interactions—specifically, the use and selection of words, sentence constructions, and content of messages.
- Pragmatics has been influenced by the theory of speech acts (Searle, 1976). Analyzing speech acts is typically a threefold process. First, the analyst recognizes the existence of the locutionary act; that is, a communicative act has taken place—something has been uttered or performed. Next, the analyst examines the effects of the communicative act. What action is performed as a result of the utterance or communicative act? If "saying = doing" (e.g., promising, warning), then this is classified as an *illocutionary act*. Finally, the analyst examines the effects of the speaker's utterance or communicative act on the listener or receiver. The elicitation of the effects—laughing, crying, performing, etc.—is referred to as the *perlocutionary act*. There might be a discrepancy between the illocutionary act and the perlocutionary action. For example, you might provide sound advice on a business deal (illocutionary), but the advice is ignored (perlocutionary).
- Pragmatics overlaps, somewhat, with the following areas of study:
  Semantics: Pragmatics and semantics both take into account such notions as the intentions of the speaker, the effects of an utterance on listeners, the implications that follow from expressing something in a certain way, and the knowledge, beliefs, and presuppositions about the world upon which speakers and listeners rely when they interact.
  Stylistics and sociolinguistics: These fields overlap with pragmatics in their study of the social relationships that exist between participants, and of the way extralinguistic setting, activity, and subject matter can constrain the choice of linguistic features and varieties.
  Psycholinguistics: Pragmatics and psycholinguistics both investigate the psychological states and abilities of the participants that will have a major effect upon their performance—such factors as attention, memory, and personality.
  Discourse analysis: Both discourse analysis and pragmatics are centrally concerned with the analysis of conversation.
  Dialects and registers: Dialects are spoken variations of a language. These variations are influenced by several factors: geography (i.e., regional dialects) or personal characteristics such as education, age, gender, race, and class (social dialects). By definition, dialects are understandable by speakers of the language despite differences in pronunciations, grammar, or lexicon. Registers are variations within the speaker or user according to the demands or requirements of specific social and communicative situations. For example, informal language (use of colloquialisms) may be used in the home, whereas more formal language (more sophisticated syntax) might be used in the lecture halls of universities.

in this chapter, using terms such as *form*, *content*, and *use*. Language is described as

> a code whereby *ideas* about the world are represented by a conventional system of signals for *communication* (p. 4; emphasis added).

This is actually a useful, succinct definition that highlights several other related general functions often associated with language: referential, propositional, and ideational (Cairns, 1996; Crystal, 1997, 2006; Owens, 1996, 2004; Pence & Justice, 2008). To communicate, both the receiver and the sender need to understand the parameters (i.e., rule-governed principles) of the code represented by an agreed-upon conventional system of signals (e.g., a string of sounds to represent words in spoken languages or a string of signs for sign languages). This understanding permits the receiver and sender to access and, eventually, to comprehend or interpret each other's expressions in an interactive fashion. This communication involves any spoken, signed, or written interaction between the participants in which there is an exchange of ideas, opinions, facts, and other types of information.

Communicating and thinking about ideas can occur in two broad contexts. One context entails everyday, communicative, or real-time interactions, which can be conducted face-to-face or through the use of electronic media such as telephones and other two-way communication devices, and which involve what can be called the *performance* (or *conversational*) mode of the language (i.e., typically speech and/or signs). This type of context is considered natural (i.e., the typical manner for receiving and expressing information) and redundant (i.e., using overlapping cues—verbal and nonverbal—to minimize misunderstandings). The information itself might also be learned or academic—that is, involving the understanding and use of topic-specific or selection-specific vocabulary such as the terminology associated with physics, law, or education (e.g., see Bailey, 2007; see also Chapter 9).

The second type of context can be labeled *decontextualized*. A *decontextualized situation* refers to the delivery of information that has been captured, recorded, or preserved (e.g., Denny, 1991; Feldman, 1991; Olson, 1989, 1994; see specifically Paul & Wang, 2006a, 2006b). It is possible to discuss the use of decontextualized information in contextualized settings; however, we should consider this the use of literate language in any mode and explore this concept further in Chapter 9. In decontextualized contexts, the information is essentially removed from real-time or live contexts; thus,

there are no face-to-face or live interactions between authors/speakers and readers/listeners. Typically, the interactions involve participants (e.g., teachers, students, readers) who have read, listened to, or viewed the text (i.e., the captured information) and are requested to perform some function for a purpose such as taking a test, recalling major points, answering questions, relating the information to other similar or personal situations, and so on (Paul & Wang, 2006a, 2006b).

It is possible to capture, record, or preserve discussions, debates, or lectures that occur in education, business, law, and government. This can be accomplished via print (similar to captions on television or just the script without the video) or through the use of electronic media (videotape, audiotape, compact discs, etc.). All of these texts (again, examples of captured information) require that the participants be familiar with the specialized language, jargon, or lingo of the specific topic in order to participate in an informed, intelligent manner.

To reiterate, the capture of information, whether in print or by electronic media, renders this information decontextualized—in this case, removed from the present context. Captured, decontextualized information lends itself to study and reflection, processes that are often associated with the thought and consciousness of Western civilization (Olson, 1989, 1994). Traditionally, the medium for capturing information has been the use of typographic (e.g., print) or chirographic (e.g., writing) forms. This is explored in detail in Chapters 7 and 8. Nevertheless, there should be similar effects for information that has been captured electronically, especially via nonprint modes such as through the use of CDs (audio books) or DVDs (video books). There are, of course, some differences, which are discussed later in this text in the chapter on literate thought (Chapter 9).

Social Interactions

It is safe to conclude that humans are social creatures. The social interaction (or social) function of language pertains to the use of words or phrases to establish and maintain a rapport between language users (Cairns, 1996; Crystal, 1997, 2006; Owens, 1996, 2004). In some cultures—for example, English-speaking cultures—certain stereotypical, automatic phrases are used as conversational openers or conversational fillers. Examples include *How are you? What's new? Good morning*, *Hello*, *Is it hot enough for you today?* and *Bless you* (after someone sneezes). The main intent of these phrases is not to communicate ideas or to exchange information. Rather, the intent is to

signal friendship or to indicate or produce a nonthreatening or comfortable encounter.

Interestingly, the lack of acknowledgment (e.g., being silent after meeting someone for the first time or after someone sneezes) may be interpreted as aloofness, alienation, or a threat. For instance, there are cases in which individuals do not desire to engage in any social intercourse for a number of reasons. Consider the various—perhaps uncomfortable—times when one has walked on the sidewalk and encountered other individuals who have, for example, stared straight ahead or looked down to avoid eye contact and, possibly, verbal exchanges. Even more uncomfortable are cases in which other individuals might cross to the other side of the street, for whatever reasons, to avoid eye or other communicative contacts with you.

The social-interactive function of language has been highlighted as the most critical aspect of language acquisition. That is, as is discussed in Chapter 3, most social-interactionist proponents argue that language develops as a result of activities and interactions in social situations—conversations, bath time, reading stories, and so on. This has also highlighted the importance of pragmatics (use of language; discussed previously), especially in language intervention programs using techniques such as turn-taking activities and making requests (e.g., see Owens, 2004).

Identity

Language can also be used to express the identity of the language user (Crystal, 1997, 2006; Goodluck, 1991). Individuals have multiple identities—for example, personal, social, and political. The language that speakers/signers use can reveal information about their background, education, vocation, age, gender, geographical location, belief systems, and other personal characteristics. In fact, identity is also associated with or influenced by factors that also affect dialects (e.g., variations across language users, as in pronunciation and grammar) and registers (e.g., variations within a language user, as in the use of informal and formal expressions).

A good illustration of political identity can be seen in the following example:

> In the early stages of the presidential race in 2007, Barack Obama, a Democratic candidate, took his place at the podium. Before he could speak, several individuals from the audience shouted one of his favorite slogans: “There is only one America!” Mr. Obama, energized by these remarks, began his address.

Table 2-7 Examples of Social and Personal Identities of Language

The Deaf: "By Their Fruits Ye Shall Know Them"*

Nature hates force. Just as the flowing stream seeks the easiest path, so the mind seeks the way of least resistance. The sign language offers to the deaf a broad and smooth avenue for the inflow and outflow of thought, and there is no other avenue for them unto it.
—G. M. Teegarden

Reading Between the Lips†

Although I have been totally deaf since the age of 6, my world has always been that of the hearing. And my deafness is little more than an occasional pain in the ass, because several factors have stacked the deck in my favor:

I grew up among hearing people.
I communicate by speaking and reading lips.
And I married a woman with normal hearing.

*Adapted from Gannon (1981).
†Golan (1995, p. 3).

Rather than communicate ideas, the words *There is only one America* reflect the individual's sense of political identity. One can pick up almost any newspaper and find numerous examples or slogans, often associated with political candidates, especially during election periods, or with social issues such as Medicare, social welfare, war, and education. Consider phrases such as *a thousand points of lights*, *No Child Left Behind,* and *Out of Iraq, Now!*

It is not difficult to find examples of expressions of social identity, particularly with the use of language, that unites a group. These include the shouts or acclamations that occur at sporting events or other large gatherings, the bursts of affirmation that accompany religious sermons, and the appreciative sounds from family members upon seeing scrumptious-looking food for dinner. These remarks represent "the signalling of who we are and where we 'belong'" (Crystal, 1997, p. 13).

The use of language to express personal identity, especially an image that is up front and center, can be seen in the phrases used by members of minority or ethnic groups. Examples include *Gay Rights*, *Right to Choose*, and *Deaf People Can*. The discussion of the identity of deafness is taken up later in this text (see Chapter 6).

Table 2-7 contains examples that exemplify the social and personal identities of individuals who are deaf or hard of hearing.

SUMMARY OF MAJOR POINTS

Did all of your questions get answered? I bet that you created a ton of questions as you proceeded through the chapter. If you are a bona fide teacher or clinician (or a future one!), you probably wondered how it is possible to teach all of the aspects and nuances of language to children with disabilities, especially children who are deaf or hard of hearing. Do you think it is even possible to *teach* language at all? How much should a teacher or clinician really know about language without becoming a linguist? The instruction of language will be covered much later, in Chapter 10.

The interesting questions for now, however, are as follows: How much should language teachers know about language? What is it that they should know? Is knowledge about language similar to knowledge about other so-called rigorous content areas such as chemistry, physics, or mathematics? Or is it comparable to knowledge in areas such as psychology, sociology, and anthropology? What about the contributions of philosophy? Do the answers to these questions—or the nature of the questions themselves—affect the manner in which language courses should be taught in university-level education or training programs? Some answers to these questions might become clearer after you read Chapter 3.

These questions and others are still controversial in the education of deaf and hard of hearing students and even in teacher-education programs at the university level. The issue becomes even more complex when consideration is given to the fact that English needs to be taught as a first or second language to many of these deaf and hard of hearing students in public schools, assuming that English—or any other language—can be taught at all. Indeed, perspectives on whether a language can be taught influence what it is that teachers should know about a language as well as how they should proceed with the teaching of it in classroom settings.

In this chapter, my intention was to expose you to a general overview of the structures and functions of language. I needed to be selective and brief because it is too easy to become overwhelmed by the wealth of information available on this topic. Indeed, it was difficult to make choices, but I hope that the information was sufficient for readers to obtain a basic understanding.

The chapter had two major sections: structure and function. Highlights of these areas were presented in summary tables throughout the chapter. An overall brief synopsis of each area is as follows.

With Respect to Language Structure

- This section provided information on the following language structures: phonology, morphology, syntax, semantics, and pragmatics.
- Phonology is concerned with the building blocks of a language. For spoken language, this entails elements of the sound system, whereas for sign languages, this involves elements of manual and nonmanual movements. If students cannot access these building blocks, it is hypothesized that they will not develop or internalize the structure of language. Knowledge of phonology seems to be crucial for understanding the alphabet system of English in acquiring reading and writing skills.
- Morphology is concerned with minimal elements of meaning labeled morphemes. The focus is on words and their internal parts. The chapter covered aspects of derivational and inflectional morphology. Inflectional morphological processes focus on the manner in which words can vary (or be inflected) for grammatical purposes. Derivational morphology (e.g., suffixes) creates new words by changing the meaning of the base form—often leading to words in different word classes (i.e., nouns, verbs, adjectives). Along with phonology, morphology seems to be crucial for the understanding of orthography (i.e., the arrangement of letters on the page; graphemes). This knowledge enables readers/writers to become proficient in the conventional spelling of words. The concept of morphology has played a major, albeit controversial, role in the development of the English sign systems.
- Syntax refers to the order or arrangement of words in a sentence. The linguist/philosopher Chomsky has revolutionized our thinking on the importance of syntax. Two categories of syntax were discussed: linear and hierarchical. Linear structures are fairly simple constructions that can be interpreted in a left-to-right fashion using a subject-verb-object (SVO) strategy. Hierarchical structures contain embedded structures such as phrases, clauses, and sentences and cannot be interpreted in an SVO fashion. Deaf students have enormous difficulty with hierarchical structures due to their persistent use of the SVO strategy (as well as other reasons).
- Semantics is the study of meaning in language. The area of semantics has had Wide-reaching influences in a number of disciplines or scholarly fields—for example, reading/writing, cognitive development, language/thought debates, and the domain of pragmatics. Traditionally, much of the focus in semantics has been on lexical development—that is, the acquisition of words and their meanings.

- Pragmatics is the study of language use. It has been argued that an understanding of pragmatics is necessary for understanding the acquisition of language, including the use and development of language structures. This is a strong social-interactionist view of language development. There seems to be an overlap between the domain of pragmatics and other areas—for example, semantics, psycholinguistics, sociolinguistics, and discourse analysis.

With Respect to Language Function

- The most obvious language functions are communication and a tool for thinking. There are several other critical functions that entail personal, social, and political identities. A number of factors influence the nature of these identities—for example, geographical location, age, gender, education, vocation, sexual orientation, race/ethnicity, and so on.
- Within the communication function, the chapter delineated two types of contexts: contextualized and decontextualized. Contextualization refers to live, through-the-air exchanges, whereas decontextualization refers to the exchanges of captured information, either in print (script literacy) or electronically in nonprint modes (videotapes, audiotapes, compact discs). These concepts are explored further in the chapters on literacy and literate thought.
- To access captured decontextualized information, an individual needs to learn or acquire skills that are unique to the code of the medium (i.e., of the captured information).
- Any verbal information that has been captured, recorded, or preserved can be labeled as an example of literacy.

With this brief introduction to the structures and functions of language, I am certain you will agree that language is, indeed, a complex phenomenon. There is, of course, much more to this phenomenon, as will become evident in the next chapter on language acquisition, in which the focus is on theories and models as well as the relationship between language and cognition.

FURTHER READINGS

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