**Language**

**LEARNING OBJECTIVES**

By the end of this section, you will be able to:

* Define language and demonstrate familiarity with the components of language
* Understand how the use of language develops
* Explain the relationship between language and thinking

Language is a communication system that involves using words and systematic rules to organize those words to transmit information from one individual to another.

While language is a form of communication, not all communication is language. Many species communicate with one another through their postures, movements, odors, or vocalizations.

This communication is crucial for species that need to interact and develop social relationships with their conspecifics.

However, many people have asserted that it is language that makes humans unique among all of the animal species (Corballis & Suddendorf, 2007; Tomasello & Rakoczy, 2003).

COMPONENTS OF LANGUAGE

Language, be it spoken, signed, or written, has specific components: a lexicon and grammar. Lexicon refers to the words of a given language. Thus, lexicon is a language’s vocabulary.

Grammar refers to the set of rules that are used to convey meaning through the use of the lexicon (Fernández & Cairns, 2011). For instance, English grammar dictates that most verbs receive an “-ed” at the end to indicate past tense.

Words are formed by combining the various phonemes that make up the language. A phoneme (e.g., the sounds “ah” vs. “eh”) is a basic sound unit of a given language, and different languages have different sets of phonemes.

Phonemes are combined to form morphemes, which are the smallest units of language that convey some type of meaning (e.g., “I” is both a phoneme and a morpheme).

We use semantics and syntax to construct language. Semantics and syntax are part of a language’s grammar.

Semantics refers to the process by which we derive meaning from morphemes and words. Syntax refers to the way words are organized into sentences (Chomsky, 1965; Fernández & Cairns, 2011).

We apply the rules of grammar to organize the lexicon in novel and creative ways, which allow us to communicate information about both concrete and abstract concepts.

We can talk about our immediate and observable surroundings as well as the surface of unseen planets. We can share our innermost thoughts, our plans for the future, and debate the value of a college education.

We can provide detailed instructions for cooking a meal, fixing a car, or building a fire. The flexibility that language provides to relay vastly different types of information is a property that makes language so distinct as a mode of communication among humans.

LANGUAGE DEVELOPMENT

Given the remarkable complexity of a language, one might expect that mastering a language would be an especially arduous task; indeed, for those of us trying to learn a second language as adults, this might seem to be true.

However, young children master language very quickly with relative ease. B. F. Skinner (1957) proposed that language is learned through reinforcement.

Noam Chomsky (1965) criticized this behaviorist approach, asserting instead that the mechanisms underlying language acquisition are biologically determined.

The use of language develops in the absence of formal instruction and appears to follow a very similar pattern in children from vastly different cultures and backgrounds.

It would seem, therefore, that we are born with a biological predisposition to acquire a language (Chomsky, 1965; Fernández & Cairns, 2011).

Moreover, it appears that there is a critical period for language acquisition, such that this proficiency at acquiring language is maximal early in life; generally, as people age, the ease with which they acquire and master new languages diminishes (Johnson & Newport, 1989; Lenneberg, 1967; Singleton, 1995).

Children begin to learn about language from a very early age . In fact, it appears that this is occurring even before we are born.

Newborns show preference for their mother’s voice and appear to be able to discriminate between the language spoken by their mother and other languages.

Babies are also attuned to the languages being used around them and show preferences for videos of faces that are moving in synchrony with the audio of spoken language versus videos that do not synchronize with the audio (Blossom & Morgan, 2006; Pickens, 1994; Spelke & Cortelyou, 1981).

Stages of Language and Communication Development

Stage Age Developmental Language and Communication

1 0–3 months Reflexive communication

2 3–8 months Reflexive communication; interest in others

3 8–13 months Intentional communication; sociability

4 12–18 months First words

5 18–24 months Simple sentences of two words

6 2–3 years Sentences of three or more words

7 3–5 years Complex sentences; has conversations

Dig Deeper: The Case of Genie

In the fall of 1970, a social worker in the Los Angeles area found a 13-year-old girl who was being raised in extremely neglectful and abusive conditions. The girl, who came to be known as Genie, had lived most of her life tied to a potty chair or confined to a crib in a small room that was kept closed with the curtains drawn. For a little over a decade, Genie had virtually no social interaction and no access to the outside world. As a result of these conditions, Genie was unable to stand up, chew solid food, or speak (Fromkin, Krashen, Curtiss, Rigler, & Rigler, 1974; Rymer, 1993). The police took Genie into protective custody.

Genie’s abilities improved dramatically following her removal from her abusive environment, and early on, it appeared she was acquiring language—much later than would be predicted by critical period hypotheses that had been posited at the time (Fromkin et al., 1974). Genie managed to amass an impressive vocabulary in a relatively short amount of time. However, she never developed a mastery of the grammatical aspects of language (Curtiss, 1981). Perhaps being deprived of the opportunity to learn language during a critical period impeded Genie’s ability to fully acquire and use language.

You may recall that each language has its own set of phonemes that are used to generate morphemes, words, and so on.

Babies can discriminate among the sounds that make up a language (for example, they can tell the difference between the “s” in vision and the “ss” in fission); early on, they can differentiate between the sounds of all human languages, even those that do not occur in the languages that are used in their environments.

However, by the time that they are about 1 year old, they can only discriminate among those phonemes that are used in the language or languages in their environments (Jensen, 2011; Werker & Lalonde, 1988; Werker & Tees, 1984).

After the first few months of life, babies enter what is known as the babbling stage, during which time they tend to produce single syllables that are repeated over and over. As time passes, more variations appear in the syllables that they produce.

During this time, it is unlikely that the babies are trying to communicate; they are just as likely to babble when they are alone as when they are with their caregivers (Fernández & Cairns, 2011).

Interestingly, babies who are raised in environments in which sign language is used will also begin to show babbling in the gestures of their hands during this stage (Petitto, Holowka, Sergio, Levy, & Ostry, 2004).

Generally, a child’s first word is uttered sometime between the ages of 1 year to 18 months, and for the next few months, the child will remain in the “one word” stage of language development.

During this time, children know a number of words, but they only produce one-word utterances. The child’s early vocabulary is limited to familiar objects or events, often nouns.

Although children in this stage only make one-word utterances, these words often carry larger meaning (Fernández & Cairns, 2011). So, for example, a child saying “cookie” could be identifying a cookie or asking for a cookie.

As a child’s lexicon grows, she begins to utter simple sentences and to acquire new vocabulary at a very rapid pace. In addition, children begin to demonstrate a clear understanding of the specific rules that apply to their language(s).

Even the mistakes that children sometimes make provide evidence of just how much they understand about those rules. This is sometimes seen in the form of overgeneralization. In this context, overgeneralization refers to an extension of a language rule to an exception to the rule.

For example, in English, it is usually the case that an “s” is added to the end of a word to indicate plurality. For example, we speak of one dog versus two dogs.

Young children will overgeneralize this rule to cases that are exceptions to the “add an s to the end of the word” rule and say things like “those two gooses” or “three mouses.” Clearly, the rules of the language are understood, even if the exceptions to the rules are still being learned (Moskowitz, 1978).

**LANGUAGE AND THOUGHT**

When we speak one language, we agree that words are representations of ideas, people, places, and events.

The given language that children learn is connected to their culture and surroundings. But can words themselves shape the way we think about things? Psychologists have long investigated the question of whether language shapes thoughts and actions, or whether our thoughts and beliefs shape our language.

Two researchers, Edward Sapir and Benjamin Lee Whorf, began this investigation in the 1940s. They wanted to understand how the language habits of a community encourage members of that community to interpret language in a particular manner (Sapir, 1941/1964).

Sapir and Whorf proposed that language determines thought, suggesting, for example, that a person whose community language did not have past-tense verbs would be challenged to think about the past (Whorf, 1956).

Researchers have since identified this view as too absolute, pointing out a lack of empiricism behind what Sapir and Whorf proposed (Abler, 2013; Boroditsky, 2011; van Troyer, 1994). Today, psychologists continue to study and debate the relationship between language and thought.

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