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**Chapter 1: Language Development: An Introduction**

***Summary***

Language is the socially shared and rule-governed code of arbitrary symbols that humans use as a representational code for thought and communication. The human brain uses language as a representational tool to store information and to carry out many cognitive processes, such as reasoning, hypothesizing, and planning. As a communication tool, language provides a productive and efficient means for sharing information with other people. Some experts consider the human capacity for language to reside in a particular module of the brain; other researchers contend that a more general neural network serves language processes.

Language, speech, hearing, and communication are different albeit interrelated processes. Speech is the voluntary neuromuscular behavior that allows humans to express language and is essential for spoken communication. Hearing is the perception of sound, which includes both general auditory perception and speech perception. Speech perception involves specialized processors in the brain that have evolved specifically to respond to human speech and language. Communication is the act of sharing information among two or more people. Although communication need not involve speech, language, and hearing, the capacity for humans to use these processes to share information makes human communication the most sophisticated among all species.

Language comprises three major domains: content, form, and use. *Content* is the meaning of language, including the specific words people use and the concepts represented by words and groups of words. *Form* is how words, sentences, and sounds are organized and arranged to convey content. Form includes phonology (rules governing the sounds used to make syllables and words), syntax (rules governing the internal organization of sentences), and morphology (rules governing the internal organization of words and syllables). *Use* describes the functions served by language, or how people draw on language functionally to meet personal and social needs.

Several remarkable features of language make it particularly fascinating for both researchers and practitioners. First is the acquisition rate of language; young children exhibit a striking capacity for developing language rapidly and efficiently. Second is the universality of language. Language is ubiquitous among world communities, and every human culture has one or more languages that its members share. The third feature is species specificity. Language is a uniquely human capacity; no other animal species shares this aptitude. The fourth feature is semanticity. Human language allows people to represent events that are decontextualized, or removed from the present, including not only real events of the past or future, but also events and concepts that are wholly imaginary and abstract. The fifth feature is productivity or the principle of combination which is how the rule-governed code of language provides its users with a generative code by which they can combine a small number of discrete units (e.g., phonemes, morphemes) into seemingly infinite novel creations.

Comparison of the language achievements of any two persons, whether children or adults, will reveal considerable individual differences in the content, form, and use of language. *Language differences* and *language disorders* are terms that describe this variability in language achievements among individuals. Language differences occur because of the natural variability in language outcomes that result from both input differences, e.g., different dialects, languages, and social differences, e.g., gender, family composition, as well as genetic differences. A language disorder becomes evident when an individual shows significant difficulties in language achievement; such disorders may result from heritable language impairment, developmental disability, and/or brain injury.

***Focus Questions***

1. What is language?

2. How does language relate to speech, hearing, and communication?

3. What are the major domains of language?

4. What are some remarkable features of language?

5. What are language differences and language disorders?

***Key Terms***

|  |  |  |
| --- | --- | --- |
| acoustics | gender differences | phonotactics |
| acquired brain injury | General American English | pragmatics |
| acquisition rate | hearing | preintentional communication |
| agrammaticism | heritable language impairment | productivity |
| allophone | iconic communication | receiver |
| articulation | inner language | referent |
| audition | intensity | referential communication |
| auditory perception | intentional communication | resonation |
| bilingualism | language | respiration |
| coarticulation | language difference | responsiveness |
| code switching | language impairment | semanticity |
| communication | lexicon | semantics |
| communication breakdowns | linguistic feedback | sender |
| content | model | species specificity |
| contextualized | modularity | specific language impairment |
| conversational repair | monolinguism | speech |
| critical period | morphemes | speech perception |
| decontextualized | morphology | symbolic communication |
| dialects | nonlinguistic feedback | syntax |
| domain specific | oral communication | traumatic brain injury |
| extralinguistic feedback | paralinguistic feedback | twin studies |
| feedback | phonation | universality |
| form | phoneme | use |
| frequency | phonology | written language |

***Presentation Outline***

**I. INTRODUCTION**

* *Present slide 1.1 and discuss the five focus questions. Ask the class why the field of language development is thought to be complex and constantly evolving.*

**II. WHAT IS LANGUAGE?**

A. Language Defined

* + *Ask the class to provide definitions of language. Present slide 1.2 and discuss components and characteristics of language.*
  + *Present slide 1.3 and discuss Nelson’s definition of language*
  + *Present slides 1.4–1.7 and discuss each of the four characteristics of language covered in Nelson’s definition. Make sure to focus on and explain each characteristic and how they are distinct from, as well as interrelated with one another.*

B. Language as a Module of Human Cognition

* *Present slide 1.8 and explain the concept of modularity and the term domain-specific.*
* *Ask students to provide their own perspective about language modularity. Discuss current thought regarding language modularity, including critics’ perspectives.*

**III.** **HOW DOES LANGAUGE RELATE TO SPEECH, HEARING, AND COMMUNICATION?**

* *Present slide 1.9 and introduce the relationship among speech, hearing, and communication.*
* *Ask students to present their own definitions of these three concepts, putting each term in their own words.*
* *Briefly review definitions on slides 1.9–1.10*

A. Speech

1. Definition

* *Present slide 1.11 and discuss the definition, including activation of muscles in four systems.*
* *Present slide 1. 12 and discuss how and why it is said that speech superimposed itself on other capacities.*

1. Model of Speech Production

* *Present slide 1.13 and define the term model. Explain how the three stages of the model work together to produce speech.*
* *Present slides 1.14–1.16, explaining each stage in greater detail.*
* *Ask students what it means to “stumble over words” and how it relates to the model of speech production.*

1. Relationship of Speech to Language

* *Ask students to think about the relationship between speech and language—does one depend on the other? Following discussion, present slide 1.17.*
* *Discuss whether a person can have a speech disorder with excellent language skills. How does such a phenomenon help to clarify the relationship between speech and language?*

B. Hearing

1. Definition
   * *Present slide 1. 18 and give the definition for hearing.*
2. Sound Fundamentals
   * *Beginning with slide 1.19 and continuing through slide 1.21, describe the four acoustic events of sound processing.*
3. Speech Perception
   * *Present slide 1.22 and discuss the term speech perception, including how it differs from auditory perception.*

C. Communication

1. Definition

* *Ask students to define communication. Present slide 1.23.*
* *Beginning with slide 1.23 and continuing with slide 1.24, explain the four basic processes of communication and how they relate to one another.*
* *Present slide 1.25 and explain the different types of communication.*
* *Ask students to hypothesize about the three basic purposes of communication. Present slide 1.26.*

1. A Model of Communication

* *Present slide 1.27 and highlight the three essential components.*
* *Present slide 1.28. Discuss the importance of feedback in communication and define the three types. Ask students to provide an example of the use of feedback in their daily conversations.*

1. The Purpose of Communication

* *Present slide 1.29 and define the primary purpose of communication.*

**IV. WHAT ARE THE MAJOR DOMAINS OF LANGUAGE?**

A. Content, Form, and Use

* *Present slide 1. 30 and introduce the terms content, form, and use.*
* *Ask students to explain what is meant by content, form, and use and how they represent and organize language. Present slides 1.31-1.33.*

B. Components of Content, Form, and Use

* *Present slide 1.34 and explain that the three domains (form, content, use) can be expanded into a more refined five-component system. Ask students to define each term in their own words.*
* *Present slides 1.35-1.38, carefully defining each component and explaining how it relates to its respective domain. Have students provide an example of each component from their daily language use.*

**V. WHAT ARE SOME REMARKABLE FEATURES OF LANGUAGE?**

* *Explain that language is one of the most extraordinary capacities of the human species and ask students to suggest reasons why. Present slide 1.39.*

A. Rate of Acquisition

* *Present slide 1.40 and explain what is known about rate of acquisition, highlighting the critical period and relating it to other species’ acquisition of behaviors required for survival.*

B. Universality

* *Ask students if they think the manner in which a language is learned is dependent upon the language itself. Present slide 1.41, noting the invariance across children learning different languages.*

C. Species Specificity

* *Present slide 1.42, emphasizing that language is a human capacity not shared by any other animal. Ask students the ways in which animal and human communication systems differ.*

D. Semanticity

* *Present slide 1.43 and explain the importance of decontextualization and its relationship to human language.*

E. Productivity

* *Present slide 1.44 and explain how productivity is what makes humans capable of producing an endless amount of ideas and constructions with a relatively small set of rules that govern the language.*
* *Ask students to explain how the principle of productivity relates to children in the earliest stages of language acquisition.*

**VI. WHAT ARE LANGUAGE DIFFERENCES AND DISORDERS?**

* *Present slide 1.45 and explain the fairly invariant pathway of language development. Ask students to provide suggestions of what would account for differences in this pathway.*

A. Language Differences

* *Present slide 1.46 and define language differences. Ask students to think of examples from their own lives that demonstrate the concept of language differences and what contributed to these differences.*

1. Dialect

* *Present slide 1.47 and define dialect. Explain factors that contribute to an increase in the number of dialects for a given language.*
* *Present slide 1.48 and discuss the use of African American Vernacular English (AAVE) in society today and its implications.*

2. Bilingualism

* *Present slide 1.48 and ask students to explain why bilingualism contributes to language differences. Ask if any students have experienced “code switching.”*

3. Gender

* *Present slide 1.49 and explain that girls are thought to have an advantage over boys in language development. Ask students to hypothesize possible environmental and biological factors that would result in this difference.*

4. Genetic Predisposition

* *Present slide 1.50, and ask students to share some reasons why twins are often used to study language differences and disorders.*

5. Environment

* *Present slides 1.51 and 1.52, highlighting the importance of the caregiving environment and both quantity and quality of language input received by the child.*
* *Present slides 1.53 and 1.54. Ask students to explain how environmental differences would manifest themselves in a kindergarten classroom and techniques that could be used to stimulate language development.*

B. Language Disorders

* *Present slide 1.56 and explain indicators of a language disorder.*

1. Heritable Language Impairment (LI)

* *Present slide 1.57, describing traits of the disorder.*

2. Developmental Disability

* *Present slide 1.58. Ask students why language impairment often co-occurs with certain developmental disabilities.*

3. Brain Injury

* *Present slide 1.59, differentiating amongst the different types of brain injuries.*
* *Ask students to identify factors that influence the characteristics of language impairment resulting from brain injury. Present slide 1.60.*
* *Discuss possible reasons for the common misconception that the brains of young children are better able to withstand and heal from injury than older children.*

***Discussion Questions***

1. Twins are sometimes observed to make up their own “languages.” How do children’s reasons for creating their own languages mimic the reasons why there are numerous languages throughout the world?

2. Try to construct a thought without using language—is it possible? What is the difference between thought and language?

3. An individual who has had a stroke may omit grammatical markers in his/her speech. How would language modularity proponents and critics explain this phenomenon?

4. The teacher calls on you in class to answer a question. Although you have an idea of what you want to say, you just can’t seem to get the words to come out correctly. With respect to the model of speech production, what is occurring? Where are the possible sources of breakdown and how are they corrected?

5. What is the difference between speech and language?

6. You’re racing your three year old cousin, and she crosses the finish line first and turns around and says, “I runned faster than you!” Assuming she does not have a language impairment, why would she make an error such as this in her expressive language?

7. Effective communication requires a sender, a receiver, and a shared symbolic system. Think of a few examples in which you had difficulty communicating with someone—where and why did the difficulty occur? How did you resolve it?

8. Young children enter school (pre-school or kindergarten) with vast language differences. What are some factors that account for these differences?

***Suggested Readings***

Bickerton, D. (1995). *Language and human behavior.* Seattle, WA: University of

Washington Press.

Borden, G. J., Harris, K. S., & Raphael, L. J. (1994). Speech *science primer:*

*Physiology, acoustics, and perception of speech* (3rd ed.). Baltimore: Williams &

Wilkins.

Cartwright, J. (2000). *Evolution and human behavior.* Cambridge, MA: The MIT Press.

Lieberman, P. (1991). *Uniquely human: The evolution of speech, thought, and selfless*

*behavior.* Cambridge, MA: Harvard University Press.

Tomasello, M. (2003). *Constructing a language.* Cambridge, MA: Harvard University

Press.

**Chapter 1 Test Items**

*Multiple Choice Questions*

1. \_\_\_\_\_\_\_\_\_\_\_, the smallest units of language that carry meaning, are combined to create words.

a. graphemes

b. morphemes

c. phonemes

d. allophones

2. Speech involves the precise activation of muscles in which four systems?

a. respiration, phonation, resonation, and articulation

b. inspiration, phonation, resonation, and articulation

c. respiration, inhalation, phonation, and articulation

d. expiration, phonation, inspiration, and articulation

3. A \_\_\_\_\_\_\_\_\_\_\_\_\_ is a way to represent an unknown event based on the current best evidence governing that event.

a. theory

b. hypothesis

c. principle

d. model

4. The smallest unit of sound that can signal a difference in meaning is a:

a. syllable

b. morpheme

c. phoneme

d. grapheme

5. Ongoing \_\_\_\_\_\_\_\_\_\_ relays information about speech output back to the origination of the perceptual target and motor schema.

a. conversation

b. feedback

c. thought

d. perception

6. Which term refers to pitch, or how fast air particles move back and forth?

a. frequency

b. wavelength

c. intensity

d. tone

7. Which term refers to the loudness of the sound, or how far apart the particles move when going back and forth?

a. depth

b. frequency

c. tone

d. intensity

8. The term that refers to a principle of early development that suggests that young children have a bias towards attending to auditory information in their environment is:

a. auditory preference

b. auditory stimulation

c. auditory overshadowing

d. auditory predisposition

9. Which process describes the way in which phonemes overlap with one another when produced by humans?

a. articulation

b, co-articulation

c. resonation

d. phonation

10. A one-year-old who says “cup” to request something to drink is producing which type of communication?

a. iconic communication

b. symbolic communication

c. intentional communication

d. pre-intentional communication

11. A dog’s bark is an example of which type of communication?

a. pre-intentional communication

b. referential communication

c. symbolic communication

d. intentional communication

12. Which of the following is NOT an essential component in the model of communication?

a. a receiver to receive and comprehend the message

b. a mediator to interpret and refine the message

c. a shared symbolic system

d. a sender to formulate and transmit a message

13. Which of the following is NOT an example of extralinguistic feedback?

a. saying, “mm-hmm”

b. nodding

c. avoiding eye contact

d. standing very close to someone

14. The major domains of language are:

a. intent, use, and form

b. organization, content, and use

c. meaning, intent, and form

d. content, form, and use

15. Content is conveyed through our ­­­­­\_\_\_\_\_\_\_\_\_\_\_, as we select and organize words to express our ideas or to understand what others are saying.

a. inflection

b. intention

c. organization

d. lexicon

16. The five components of the three domains of language are:

a. grammar, organization, morphology, phonics, and pragmatics

b. syntax, structure, semantics, phonology, and pragmatics

c. semantics, syntax, morphology, phonology, and pragmatics

d. syntax, semantics, phonics, grammar, and phonology

17. Semantics is synonymous with the domain of:

a. organization

b. use

c. content

d. form

18. The rules of language governing the meaning of individual words and word combinations is:

a. semantics

b. pragmatics

c. syntax

d. morphology

19. Changing the statement, “You are going” into the question, “Are you going?” is an example of what kind of structural change:

a. phonological

b syntactic

c. morphological

d. pragmatic

20. Manipulating words by adding prefixes or suffixes pertains to the domain of:

a. morphology

b. phonology

c. phonics

d. pragmatics

21. Subtle variations of phonemes that are contextually conditioned, such as differences in the /p/ sounds in the word “pop,” are called:

a. allophones

b. homophones

c. homonyms

d. synonyms

22. The fact that the phoneme /g/ never follows /s/ or /l/ at the beginning or end of a syllable in English is an example of English:

a. morphology

b. phonemic awareness

c. phonological awareness

d. phonotactics

23. The rules of language governing how language is used for social purposes is best defined as:

a. politeness

b. protocol

c. pragmatics

d. semantics

24. The fact that children are able to understand and use several words at one year even though they are unable to understand or use any words at birth is an example of what feature of language acquisition?

a. universality

b. rate of acquisition

c. productivity

d. engine of thought

25. The critical period (or sensitive period) for language development occurs between:

a. ages 6 and 7

b. ages 0 and 8

c. ages 2 and 15

d. ages 0 and 19

26. The fact that the ways in which a child learning English and a child learning Chinese learn language and the timepoints at which they achieve certain milestones is fairly invariant refers to the concept of:

a. a critical period

b. the rate of acquisition

c. instinct

d. universality

27. The principle of combination—that a small number of discrete units can be combined into a seemingly infinite number of novel creations—refers to:

a. efficiency

b. universality

c. productivity

d. creativity

28. What are the natural variations of a language that evolve within specific cultural or geographic boundaries?

a. inflection

b. slang

c. dialects

d. accents

29. A child who speaks Spanish at home and English at school produces a sentence in Spanish at home, but inserts a phrase in English. This is an example of:

a. code-switching

b. confusion

c. dialects

d. English as a Second Language

30. Which of the following is NOT true about gender and language development?

a. Girls tend to start talking earlier than boys.

b. Girls are more likely than boys to have significant difficulties with language

development.

c. Girls tend to develop their vocabulary faster than boys in the second year of

life.

d. Boys are more likely than girls to be diagnosed with language

disorders.

31. The two aspects of the environment that seem to contribute most prominently to a young child’s language development are:

a. the quality and quantity of language she experiences.

b. when and how she experiences language.

c. the quality and type of language she experiences.

d. who speaks to her and how often she is spoken to.

32. The most common type of communication impairment affecting children is:

a. stuttering

b. delayed speech

c. aphasia

d. language impairment

33. A focal brain injury affects:

a the left side of the brain

b. one specific brain region

c. the right side of the brain

d. large areas of the brain

34. Which of the following does NOT influence the characteristics of language impairment resulting from brain injury?

a. the site of damage

b. the characteristics of the child before the injury occurred

c. the child’s native language

d. the severity of the injury

35. An approach that has been tested for increasing children’s language use and complexity in the preschool classrooms is training teachers to use:

a. interaction-promoting responses

b. caregiver responsiveness

c. positive reinforcement

d. social skills mediation

*True/False Questions*

1. The relationship between words and their referents is arbitrary.

2. Modularity is a theory of cognitive science that considers how the linguistic system is organized within the structures of the brain.

3. Specific regions of the brain are associated with specific language abilities.

4. Language depends on speech, but speech does not depend on language.

5. Paralinguistic feedback refers to the use of pitch, loudness, and pausing, all of which are superimposed over the linguistic feedback.

6. Content refers to the meaning of language—the words we use and the meaning behind them.

7. Syntax, morphology, and phonology reflect three elements of form.

8. Phonics is the rules of language governing the sounds we use to make syllables and words.

9. For most children, language development follows a fairly invariant pathway.

10. All languages reflect the same infrastructure of the human brain and thus are similar in their complexity.

*Short Answer Questions*

1. Explain how a person may have a speech disorder, but excellent language skills.

2. What is the difference between speech perception and auditory perception?

3. Explain why a baby pointing to its bottle is an example of intentional communication.

4. List at least two types of feedback, within models of spoken communication, giving an example of each.

5. Give an example of a communication breakdown and explain *why* it occurred.

6. Explain the difference between contextualized and decontextualized language.

7. How do animal and human communication systems differ?

*Essay Questions*

1. Although they are often used interchangeably, speech, hearing, communication, and language are distinct processes. Define and explain the differences amongst the four processes.

2. People often confuse the terms language difference and language disorder. Define and explain the differences between the two terms, giving at least one example of each term.

3. Someone yells “Fire!”—describe the four acoustic events involved in the transmission and reception of this speech.

4. You want to tell your friend about the new movie you saw last night. Define and describe the four basic processes required for your interaction to be considered communication.

5. Matt has a language impairment. Explain what this is and give three possible causes for his impairment.

6. What is evidence-based practice? Describe a way in which using this method can change treatment protocols.