

## PSYC 1101 Exam 4 Note Packet (Mark Prokosch)

### LANGUAGE

#### Communication in Humans

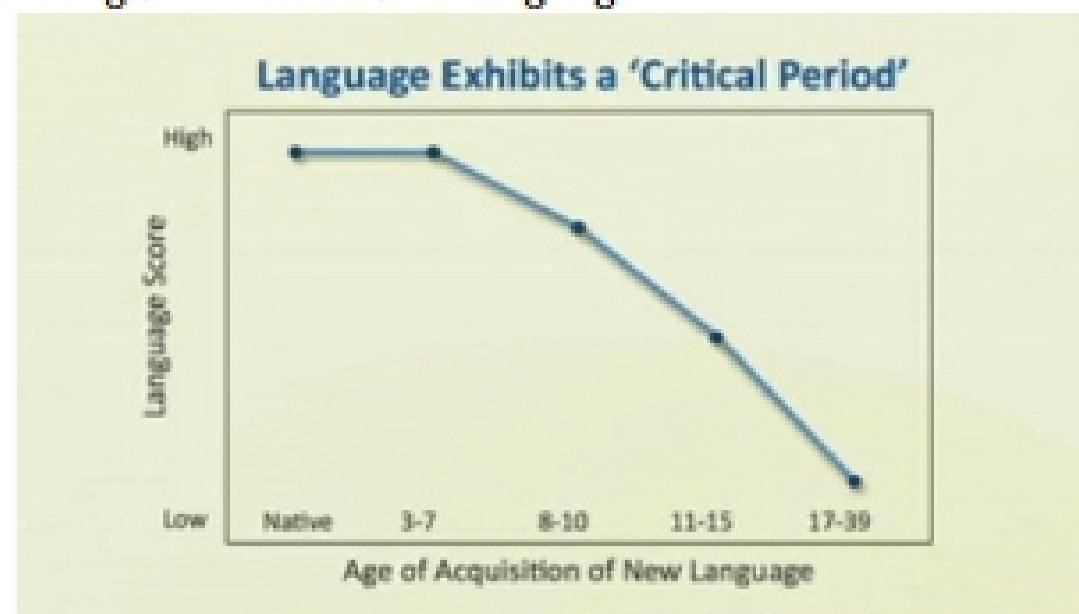
- **Infant-directed speech** = caregiver's communications with infants
  - 4 versions of melodies used during infant directed speech:
    - Attention
    - Approval
    - Prohibiting
    - Comfort

#### Sensitive Period of Language Development

- **Sensitive period** = stage in development when an individual can best acquire specific skills
  - Ability to learn language later in life requires considerable effort
  - Many psychologists believe the years **prior to age 13** are vital for language development (maximally before age 7)

#### Learning Multiple Languages

- Young children readily learn a second or third language
  - The earlier we learn it → the more proficient we become
  - Language learning ability declines as we age
- Children in **bilingual and multilingual homes** acquire language at a slightly *slower* pace
- Growing up with one set of **phonemes**, or basic set of sounds → difficulty pronouncing those of another language



#### Language: How We Develop

##### **Sequence of Language Learning**

- **Pre-vocal Learning**: 2-4 months old
  - Part of the **receptive language** stage, where babies learn to discriminate sounds
  - Babies distinguish all phonemes they will later use for language

- Prefer to look at faces that match sounds (learn that ah comes from wide open lips, etc.)
- **Babbling:** ~6 months old
  - Meaningless experimental sounds preceding actual language
  - Part of the **productive learning** stage, where the ability to produce words and sounds arises
  - NOT an imitation of adult speech → includes sounds from all languages
  - Deaf babies raised by deaf parents tend to babble more with hands
  - At about 10 months old, a trained ear can identify the language. Sounds and intonations from other languages begin to disappear and without exposure to other languages, babies become functionally deaf to speech sounds outside native language (ex. American baby will not be able to discriminate between sounds in Japanese)
- **First Words:** ~ 1 year old
  - Simple single word talking begins with comprehension exceeding speech
  - Still part of the **productive learning** stage
  - By now children have learned to associate meaning with sounds/words
  - At this stage, an inflected word may equal a sentence (ex. "Doggy!" = "Look at the dog out there!")
- **Telegraphic Speech:** by 2 years old
  - Simple two word sentences omitting all but essential words (ex. Want juice)
  - Also part of **productive learning** stage
- **Longer phrases/sentences:** 4 and 5 years old
  - Still part of **productive learning** stage
  - Start to employ and understand humor
    - *Ex. You never starve in the desert because of all the sand-which-is there*
    - *I once shot an elephant in my pajamas. How it got into my pajamas, I'll never know.*

### Vocabulary

- After we turn 1, we learn on average **3500 words a year**, amassing **60,000 words** by the time we graduate high school

### Components of Language

- **Language production** = formation of language
- **Language comprehension** = ability to understand meaning of language

### Language Centers in the Brain

- **Aphasia**, impaired use of language, can result from damage to any cortical area of the brain. Some people with aphasia can speak but not read, or comprehend what they read but not speak, or write but not read, etc.
- **Broca's area** (left frontal lobe)
  - Critical for speech production
  - Associated with grammar comprehension
  - **Broca's Aphasia (impairment of language production)**
    - Omission of most pronouns, prepositions, conjunctions, auxiliary verbs, tense and number endings during speech production
    - Telegraphic speech (short sentences with only necessary words)
- **Wernicke's area** (left temporal lobe)
  - Critical for language comprehension
  - Located in temporal lobe
  - **Wernicke's Aphasia (impairment of language comprehension)**
    - Difficulty understanding spoken and written speech (especially nouns and verbs)
    - Sometimes called "fluent aphasia" because they can still speak smoothly
- **Angular Gyrus**
  - Affects reading aloud
  - Can speak and understand, but can't read

#### Evolution of Language

- Stephen Pinker (1994) argues that language evolved via natural selection for the communication of information
- "Simply by making noises with our mouths, we can reliably cause precise new combinations of ideas to arise in each other"
- much like echolocation in bats or antennae in insects

### **INTELLIGENCE & CREATIVITY**

#### What is Intelligence?

- *"Intelligence is the aggregate, or global capacity to act purposefully, think rationally, and deal effectively with the environment. It is global because it characterizes the individual's behavior as a whole; it is aggregate because it is composed of elements or abilities which, though not entirely independent, are qualitatively differentiable."* -David Wechsler, 1938
- The ability to learn from experience, solve problems, and use knowledge to adapt to new situations

#### Psychometric Tradition

- Statistic analysis of individual differences in mental ability
- 100+ years of research