

Psych 353 Learning and the Young Child

Dr. Schwartz

Instructor Notes for the Development of Language (B & C Chapter 9)

I. Introduction

- A. Language is the principal mode of human communication.
 - 1. We ask for things, we express our needs,
 - 2. We transfer what we know about the world through language-- we bequeath our culture's collective cognition via language.
- B. Language is intricately involved in the development and expression of cognition
 - 1. Language allows us to translate our mental activities into conscious thought and memory.

II. Parent-Child Communication before the Development of Speech

- A. Child Directed Speech
 - 1. The speech mothers use with their infants is simpler and more redundant than the speech they use with older children.
 - a. it's easier in the presence of an infant than imagined
 - b. nonmothers do it, too.
 - c. it used to be called "motherese"
 - 2. Mothers typically use higher pitched tones, exaggerated modulation, simplified forms of adult words, many questions, many repetitions.
 - a. fathers do it
 - b. even 4 year olds do it, too.
 - 3. Bruner thought adults have a device in their brain for it and called the device: **Language acquisition support system LASS.**
 - 4. Infant-directed speech has a higher frequency, wider frequency, and a greater incidence of rising frequency contours.
 - a. These features of speech are known as **prosody**-- the ups and downs and rhythms of sounds we make.
 - b. Mothers and fathers do it across cultures. Why? Because babies like it better, so parents are reinforced for doing it.
 - 5. Child-directed (and by extension infant-directed) speech helps young children learn the appropriate phonemes of the language they will ultimately speak.

III. Perceptual ability before the production of speech

- A. Early Perceptual Abilities

1. Infants can discriminate between phonemes in languages other than their own.
2. Infants can discriminate between 2 auditory stimuli based on: frequency, intensity, duration, rise-time, & temporal pattern.
3. Infants show a preference of one sound over another.-- esp. mom's voice over another female!
4. Humans can hear voices in utero-- mechanism is adulthood-developed by 5 months gestation.
5. Infants can detect differences among phonemes in child-directed but not adult-directed speech.

IV. The Role of Child-Directed Speech

- A. Child-directed speech helps develop language, teaching vocabulary & syntax.
 1. Parents use expansions, repetitions, questions to develop language in their children.
- B. The prosody of C-I speech also regulates the infant's emotions, behavior & attention.
- C. The prosody of C-I speech also conveys to the infant mother's own emotional state.
- D. If prosody is divided into 4 separate patterns, mothers from different countries are found to do the same thing--Germany, Britain, French, Italian & American.
 1. These patterns: a. convey mom's approval, b. express prohibition, c. ask for attention, d. provide comfort to an infant.

V. The Components of Language

- A. Semantics-- word meaning
- B. Syntax-- word order
- C. Morphology-- word formation
- D. Phonology-- word sound
- E. Pragmatics--word usage
- F. A-E Above create communicative competence

VI. A Chronology of the Development of Language

- A. 1 - 2 years old
 1. begins with 3-4 words at 1 and increases to 10,000 by age 6. (this is an ave. of 5 words per day).
 2. the words are of familiar people toys, food, etc.
 3. they make mistakes in pronunciation, and the mistakes varying from sound to sound and from time to time.
 4. mistakes in phonology and proper word usage decreases over age.
 5. common mistakes in usage are **overextensions**-- "daddy" to refer to all males, much to the embarrassment of mother.
 - a. overextensions may be good in that they induce expansion and clarification verbal behaviors in adult caretakers.

6. **receptive** language knowledge precedes the development of **productive** language in that by 1st word *production* children understand nearly 100 words.
7. by 18-24 months, children produce around 24 words and put them together into word pairs-- this strongly improves ability to communicate
 - a. word pairs communicate: action, possession, location, non-existence (all gone; no more, etc.)
8. 18-24 months pragmatics improves-- they know to: (a) watch a listener for signs of understanding, (b) be close to a listener, (c) when to speak loud or soft.

B. 2 - 5 years old

1. The trend is from babytalk to adult-like communication.
2. They learn on ave. of 10-12 new words per day-- by school-age they know 8,000-14,000 words.
3. Their sentence length increases dramatically.
4. They add more subtle meaning (characterized by the addition of morphemes like 's', 'ed', 'ing'.
5. The addition of more morphemes follows a predictable order, for example:
 - a. present progressive (walking; singing)
 - b. plural
 - c. possessive <----and others in between
 - d. articles
6. They learn many morphemes, but make errors in morpheme use. These errors are referred to as: **overregularization**. (e.g. goed, fishes runned, hopted, dices, etc.). And, these types of errors (although not the same errors) occur across languages and cultures.
7. They begin using negatives primitively around age 2. e.g. "Me no happy!" "No more mommy! As they approach 4, they put negatives in verb form "I am not happy, mommy". "I don't want to go!"
8. They begin using questions:
 - ~around age 2-- use intonation "My doggie?" "Daddy bye bye?"
 - ~around age 3-- beginning using "wh" and reversing syntax .
"Where Mommy?" "Why is she sad?"
9. Pragmatics development is quite dramatic during this period.
They learn that all questions are not questions; all directives don't need to be carried out.
10. Syntax is achieved by age 5.
11. They learn how to use words in relative ways-- eg. little, long, strong.
That is, "little toy-- "big toy" can become "your toy is littler than mine".
12. By age 3, they learn to use conjunction to combine ideas-- 'and', 'because', 'but'.
13. By age 5, they can use passive sentences, and understand that meaning can be the same between an active- and passive-sentence form.

C. Preschoolers communicative competence

1. Piaget thought language among preschoolers was egocentric. It is not.
2. Preschoolers actually self-monitor their language usage quite surprisingly. They just don't usually do it in the context of psychologists' laboratories.
3. Self-monitoring develops first in familiar situations, but is fragile and uncertain. Then, they generalize skills to new and unfamiliar settings.

VII. Evidence for a Critical Period of Language

1. There is evidence that people isolated early in life from language speakers (in infancy & early childhood) show poor language development and mastery.
2. Second-language learning is best the earlier in life it is acquired, and, in fact, proficiency in English among non-English speaking people is related to the age at which they arrived in the US, not the number of years they have been speaking English or formal instruction.
3. Proficiency in American Sign Language learned among deaf children is best when children learn ASL earlier in life than later.
4. When damage to the left hemisphere of the brain takes place early in life, children show remarkable linguistic recovery, with other parts of the brain taking over linguistic functions. The later in life the brain injury, the less return of linguistic function.

VIII. Theories to Explain a Critical Period for Language

A. Newport's Less-is-More Hypothesis

1. Learners learn language easier when they are younger because their cognitive abilities are limited. That is, since the information processing system is limited, young children actually reduce the complexity in language. This reductionistic tendency makes it so young children perceive and store only parts of the complex stimuli of language. Adults learning a second language, by comparison, have to process cognitively all sorts of things they perceive, and already know. Adults help children also, because the adults talk to the children using highly simplified and repetitive speech.

B. Locke's Neurolinguistic Theory

1. Humans develop through 4 overlapping (but each non-ending) stages of neurological development where they attend to, process, and prac-

practice different aspects of language, beginning at birth (or maybe before), and reaching the 4th stage by the 2nd or 3rd year.

Phase 1: Vocal learning (0 - 10 or 11 months) where they attend to and process phonology via adult prosody. Continues on...

Phase 2: Utterance Acquisition (10-11 to 18-20 months) where the child uses stereotyped utterances like “story book time” or “here we go” “say bye-bye now”. They are acquired by rote memory, & don't involve grammatical analysis. Children are storing, in effect, “starter” utterances from which to be able to build later. Continues on...

Phase 3: Analysis and Computation (20-24 months) where the child's neurological system acts on the language information stored phase 2, by imposing structure on it. That is, the language info stored is sort of processed by the system and given structure. The system actually locates recurring elements within and across utterances and learns the rules by which the utterances are to be synthesized and parsed. Continues on...

Phase 4: Integration and Elaboration (24-26 months on->) where the child further integrates and elaborates grammatical rules syntax, vocabulary, etc. as s/he knows more and more about language. This continues on...

IX. Interesting Dimensions of Communication Skills

A. Language as Self-Regulation

B. Language as a Guide to Thought