

Acquisition – How Children Learn Language

I. Learning

- A. Fact: Kids are really good at learning language, particularly at a time when they're not very good at learning other things (like learning to tie their shoes, how to add numbers, etc.)
- B. Acquisition: The part of linguistics which is interested in how kids learn and *what* kids learn.
- C. **Grammar**: the mental system that allows people to speak and understand language. This is what kids must learn – phonology, morphology, syntax, semantics, and pragmatics.

II. Methods of Studying Child Language Acquisition

- A. **Naturalistic Approach**: observe and record children's spontaneous utterances. Usually is **longitudinal**, where one child/group is observed for an extended period of time.
 - a. Upside: allows linguists to see ongoing development & note when things change.
 - b. Downside: some structures are rarer than others and so linguists might capture only a small portion of these structures – or none at all – in spontaneous utterances.
- B. **Experimental Approach**: **elicit** data from children. Usually is **cross-sectional**, where many different children are compared over a short time.
 - a. Upside: allows linguists to get data on less-used structures. Also, it seems that children often know more than they produce (they have *linguistic competence* for some structures which they show poor *linguistic performance* on). The experimental approach allows children to display knowledge of a structure without necessarily having to use it. Approaches can test comprehension, production, or imitation (which is a sort of production).
 - i. **Picture Matching Task**: A sentence is said to the child and the child has to pick out which picture correctly represents this sentence.
Ex: "Big Bird is hugging him" → child must choose between a picture which shows Big Bird hugging someone else and a picture which shows Big Bird hugging himself.
Tests *comprehension* (of "him" in this case).
 - ii. **Truth Value Judgement Task**: A story is acted out for the child, and a sentence is used to describe what happened in the story. The child must say whether the sentence is true or false.
Ex: A tiger jumps over a fence and a tree, while a lion just jumps over the fence.
"Only the tiger jumped over the fence and the tree. Am I right or am I wrong?"
Tests *comprehension* (of "only" in this case).
 - iii. **Act-Out Task**: A child is given a sentence and told to act out what the sentence says, using props.
Ex: "Put the frog on the napkin in the box." Scenario: two frogs, one on a napkin and one not on a napkin, an empty napkin, a box.
Tests *comprehension* (of where "on the napkin" attaches, in this case).
 - iv. **Elicitation Task**: Try to get child to say a certain structure.
Ex: "He was supposed to ride the dolphin, right? He should have...."
"Ridden/Rided/Rode the dolphin."
Tests *production* (of past participle form of verb, in this case).
 - v. **Imitation Task**: Have child repeat a sentence. Often, a child will not be able to repeat the exact form.

Ex: “He should have *ridden* the dolphin.”

“He should have *rided* the dolphin.”

Tests *production* (of past participle form of verb, in this case).

- b. Downside: May be less natural for children, so has to be done carefully. Children are not very good at **accommodating** for information not included in the discourse.

Adults are very good at this.

Ex: “Be careful - the mermaid isn’t very nice.” Adults will accommodate for the fact that a mermaid must exist and both the speaker and the hearer are supposed to already know about it, while a child might ask, “What mermaid?”

III. Phonological Development

A. Newborns respond differently to human speech than to other sounds

- a. 1 month: can distinguish among certain speech sounds ([p] vs. [b]) – tested using a sucking/habituation paradigm.
- b. 6-8 months: can distinguish between different languages’ consonants (but this ability fades by 10-12 months)
- c. < 18 months: *can’t* distinguish meaning, only the phonology.

B. Babbling

- a. ~ 6 months: children experiment and gain control over their vocal apparatus.
- b. Children of *all* languages behave similarly with respect to babbling.
 - i. Frequent: [p b m t d n k g s h w j]
 - ii. Infrequent: [f v θ ð ʒ ʒ tʃ dʒ l r ŋ]

C. First Understandable Words

- a. ~ 12 months
- b. vowels come before consonants
- c. stops ([p b t d g k]) come before other consonants (perhaps because they’re easier to pick out, compared against vowels)
- d. labials ([p]) before alveolars ([t]) before velars ([k]) before alveopalatals ([ʃ]) before interdental ([θ])
- e. word-initial distinctions (pat/bat) come before word-final distinctions (mob/mop)
- f. *Note*: Relative order in which sounds are acquired reflects the frequency of these sounds in *all* the world’s languages. The earliest sounds acquired are the ones which are most frequent in the world’s languages and the latest sounds acquired are the ones which are least frequent in the world’s languages.

D. Linguistic Competence vs. Linguistic Performance Again: competence/perception of sounds comes before production. Ex: “That’s my fis.” “That’s your fis?” “No! That’s my *fis*.” “That’s your fish?” “Yeah! My fis.”

E. Early Phonetic Processes

a. **syllable simplification**

- i. [s] + stop → delete [s]. Ex: [stap] → [tap]
- ii. stop + liquid → delete liquid. Ex: [brɪŋ] → [brɪ]
- iii. fricative + liquid → delete liquid. Ex: [slɪp] → [slɪ]
- iv. nasal + voiceless stop → delete nasal. Ex: [bʌmp] → [bʌp]
- v. final consonant elimination. Ex: [dɔg] → [dɔ]

b. **substitution**

i. **stopping** [continuant (+cont) → stop (-cont)]

1. [sɪŋ] → [tɪŋ]
2. [zibrə] → [dibrə]
3. [θɪs] → [dɪt]

ii. **gliding** [liquid → glide]

1. [lajŋ] → [jajŋ]
2. [lʊk] → [wʊk]

iii. **fronting**

1. [ʃɪp] → [sɪp]
2. [dʒʌmp] → [dzʌmp]
3. [tʃɪk] → [tsɪk]
4. [gʊw] → [dʊw]

iv. **denasalization** [+nasal → -nasal]

1. [spʊn] → [bʊd]
2. [rʊm] → [wʊb]
3. [dʒæm] → [dʒæb]

b. **assimilation**: modification of one or more features of a segment under the influence of neighboring sounds

i. **voicing**

1. [tɛl] → [dɛl]
2. [pʌʃ] → [bʌʃ]

ii. **place of articulation**

1. [dagi] → [gagi]
2. [bejbij] → [bijbij]

IV. Acquiring Word Meaning

A. By 18 months, the average child has a vocabulary of 50 or so words – mostly nouns, a few verbs, and socially useful expressions like “thank you”.

B. Strategies that children *often* use for learning noun-type meanings

- a. **Whole Object assumption**: a new word refers to the whole object, not a part of the object
- b. **Type assumption**: a new word refers to a type of object, not a particular object
- c. **Basic Level assumption**: a new word refers to types of objects that are alike in basic ways.

Example:



“Cat!”

- (Whole Object) refers to entire animal, not just ears or tail.
- (Type) refers to all creatures like this, not just this animal.
- (Basic Level) refers to this specific type of creature, not all animals in general.

C. **Contextual** clues are also often available.

Ex: presence or absence of determiners (“the”) tells the child whether the word is a proper name (“Malakai”) or a common noun distinction (“a cat”)

Ex 2: “This is Dax.” vs. “This is *a* dax.”

D. Common Meaning Errors

a. **overextension**: child’s meaning is more general or inclusive than an adult’s meaning

i. “kitty” → cat, hamster, rabbit, hedgehog,...

ii. children often extend a word to include *perceptually similar* objects

iii. **borrowing**: Some of these are due to insufficient vocabulary and disappear once the correct form is learned. (For instance, once “rabbit” is learned, “kitty” is no longer used to mean “rabbit”.)

iv. Children tend to overextend more in production than comprehension. (competence/performance distinction)

b. **underextension**: child’s meaning is overly restrictive (not using Type assumption)

i. “kitty” = only the family cat

ii. often reflects children’s focus on *prototypical members* of a perceived class

1. “doggy” → golden retrievers, but not chihuahuas

E. Verb Meanings: much trickier to pin down. Ex: How would you learn the difference in meaning between “fill” and “pour”?

V. Morphological Development

A. In the beginning, affixes are systematically absent from child speech.

B. Developmental sequence of affixes

a. case-by-case learning

b. overuse of a general rule (**overgeneralization** or **overregularization**)

c. mastery of exceptions to the general rule

Ex: past tense

“went, ran, kicked” → “goed, runned, kicked” → “went, ran, kicked”

C. Mastery of inflectional rules: when kids apply the rule to a form they have never heard before.

Ex: “We like to *sib* a lot. Yesterday, we did. Yesterday, we....” “Sibbed!”

D. Word-formation

a. Derivation & compounding both emerge early.

i. As young as 3, children can use derivation.

1. “This is a person who crushes things. What would we call someone who crushes things? Someone who crushes things is called a...”
“Crusher!”

ii. Children like to form N-N compounds.

1. They are sensitive to the fact that a plural suffix can’t occur inside compounds.

2. “What do you call someone who eats *cookies*?” “*Cookie-eater!*”

VI. Syntactic Development

- A. 12-18 months: **1-word stage**.
 - a. “one-word sentences”
 - i. “Up” = “I want to go up!”
 - ii. “Dada!” = “I see daddy!”
 - b. Usually the most informative word.
- B. A few months later: **2-word stage**.
 - a. 2 word “mini-sentences”
 - i. “touch doggie” = “I touched the dog”
 - ii. “baby chair” = “The baby is sitting in the chair.”
 - b. Almost always exhibit the proper word order – suggests that they already know word order for the language at this point.
- C. 24 – 30 months. **telegraphic stage**.
 - a. Lack bound morphemes and most non-lexical categories
 - i. “What her name?” = What’s her name?
 - ii. “I good boy” = “I **am a** good boy.”
 - b. Has phrase structure in the proper order.
- D. Examples of a child’s speech over time.
 - 28 mos.: “I got horn.” “Play checkers.”
 - 30 mos.: “What that egg doing?” “Write a piece of paper.”
 - 32 mos.: “How tiger be so healthy and fly like kite?” “Joshua throw like penguin.”
 - 34 mos.: “Don’t have paper.” “I can’t wear it tomorrow.”
 - 36 mos.: “I going come in fourteen minutes.” “I have to save them now.”
 - 38 mos.: “So it can’t be cleaned?” “Do you know the lights went off?”
- E. Later Development: 2-4 years
 - a. Inversion
 - i. Children start with intonation alone to signal yes/no questions.
 - 1. “See hole?”, “Sit chair?”
 - ii. Other children make mistakes of **repetition**
 - 1. “Can he *can* look?”
 - 2. Possible leftover from Move operation?
 - b. Wh-Questions
 - i. Sometimes easier to just have inversion, rather than inversion & wh-movement
 - ii. “Can I fix it?”, “What I *did* yesterday?”

VII. How Acquisition Happens

- A. not just imitation – children say things that adults don’t say.
- B. **motherese/caregiver speech**: speech thought to be often employed when speaking to children
 - a. characteristics: slow, careful, higher pitch, more restricted vocabulary, shorter sentences, more repetitions
 - b. helps pick out meaning, sound, structure
 - c. Problem: Not available in every culture. Some cultures don’t speak to children until they learn to speak on their own.
 - d. Conclusion: might well be helpful, but certainly isn’t necessary

- C. **feedback**: the parent corrects the child
 - a. Problem: the parent corrects the truth of what the child says, but not how they say it.
 - b. Ex: “We goed there on Tuesday.” “No, we went there Wednesday.”
 - c. Ex: “We goed there Wednesday.” “That’s right!”
 - d. Possible Solution: Other forms of feedback still available → **recasts**.
 - i. “We *goed* there Wednesday.” “That’s right – we *went* there Wednesday.”
 - ii. Form a minimal pair between the child’s incorrect utterance and the adult’s correct utterance so that child can notice the difference.
 - e. Possible Problem with Solution: if recasts aren’t minimal pairs, they may be hard for the child to interpret. (Too much going on at once to notice what to fix.)
 - i. “Him go.” “Yes, he is going.”
- D. The role of inborn knowledge
 - a. **Universal Grammar (UG)**: set of inborn categories, operations, principles common to all human languages.
 - i. **nativism**: children are born with this knowledge, and so have some fairly complex information available early on.
 - ii. Acquisition = setting linguistic **parameters** (options), ex: word order, verb-second movement, verb-raising
- E. **critical period**: crucial period of development during which children must be exposed to language in order to “get” language syntax, morphology, etc. *with native proficiency*. Seems to decline at age 6 and is severely compromised by the onset of puberty.

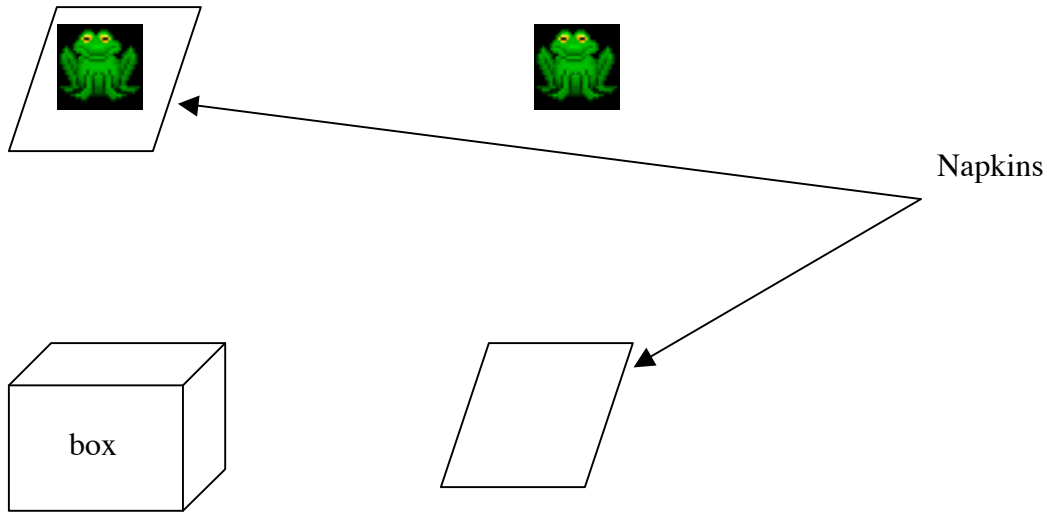
Exercises

1. A Hunt for Passives

Suppose we search through the utterances recorded from an extensive naturalistic study conducted over 60 children. Out of 18,000 utterances, we only find 19 examples of passives and these are from only 12 of the 60 children. Does this mean that the other 48 children haven’t learned the passive structure yet? Explain why or why not, in terms of the type of data that naturalistic studies make use of.

2. Frogs Here, Frogs There...

Suppose that we have the following act-out task set up:



“Put the frog on the napkin in the box.”

Suppose a child takes the frog which is not on the napkin and puts it on the napkin. The child then looks vaguely confused about the box.

- A) Where has the child attached the PP “on the napkin”? (You might find it helpful to draw the structure for this sentence.)
B) Does the child here show linguistic competence?

3. Phonetic Ease

Explain what processes of simplification have applied to produce the following child forms of these English words.

- a) “skin” → [kɪd] c) “teddy” → [dɛdi] e) “play” → [pwej]
b) “other” → [ʌdə] d) “breakfast” → [brɛkrəst]

4. Here and There

Children acquire certain spatial terms like *behind* and *in front of* relatively late. They also acquire words like *here*, *there*, *these*, and *those* relative late. Can you think of something these words have in common which might make them difficult for a child to learn?

5. Overregularize Me

Given that children tend to overregularize morphological rules, what might a young child say instead of the following *italicized* words?

- a. The *deer* all ran into the woods.
- b. We *bought* lots of ice cream.
- c. We should have *bought* more.
- d. He *threw* the crown away.
- e. He might have *thrown* it in to the sea.

6. The Learning Curve of the Past Tense

Suppose a child says the following:

“He *went* outside.”, “He *fell* down.”, “He *caught* a pixie.”

Muffin, the owl, believes that this is evidence that this child has mastered the English past tense. Why might Muffin be mistaken?

7. “Did you *don’t* go to school today?”

- a. Give one possible explanation for why the *don’t* appears where it does in this child’s question. (You might try drawing the structure for the question.)
- b. What process has the child not yet mastered?

8. And the question is...

Suppose a child’s questions at a certain point in time include the following:

“What this is called?”

“Did you see it?”

“Why she want to?”

“Where he went to?”

When I tell Muffin that this child has mastered inversion, she doesn’t believe me and points to the three wh-questions as evidence that the child doesn’t have inversion right. Explain why Muffin might be wrong about this child’s knowledge of inversion.