The Real Story of Child Language Acquisition

Day 14

0. Questions

・How is the acquisition from a second language different from a first language? What are the major differences in the process of second language acquisition between adults and children? [redacted]

・How much harder is language acquisition for children who are born deaf? [redacted]

[redacted]

HW Review: Good examples

[redacted]

<Language Acquisition Model>

(1) a. Primary linguistic data: PLD

↓

b. Language Acquisition Device, LAD

↓

c. knowledge of language, KL

(2) What are (and are not) among LAD?

(3) **Class Work 14-1**

Try to think of possible differences of the conditions between native language acquisition and adult foreign language acquisition.

1. All come from inside (pp.180 – 182)

(4) a. Only human beings acquire human language.

b. Every single person acquires a human language (unless developmental challenged).

Hence,

(5) "the capacity for language is part of our genetic inheritance." (p.180)

(6) Evidence: "inherited language disorders"[1]

(7) Twin studies

Identical twins are more similar to each other their linguistic (dis-)abilities than are fraternal twins.

(8) Adopted children studies

a. those with biological relatives with a language disorder.

b. those with biological relatives not linguistically impaired.

(9) Rate of language disorder:

(8a) > (three times more) > (8b)

[1] Stromswold, Karin. 2001. The heritability of language: A review and metaanalysis of

(10) FOXP2 – a gene which might be related to the following symptoms (some linguistic):[2]

Family linkage study: 14 / 29 members have this gene.

a. speech is almost unintelligible due to articulatory problem

b. unable to imitate facial movements (opening mouth/sticking out the tongue)

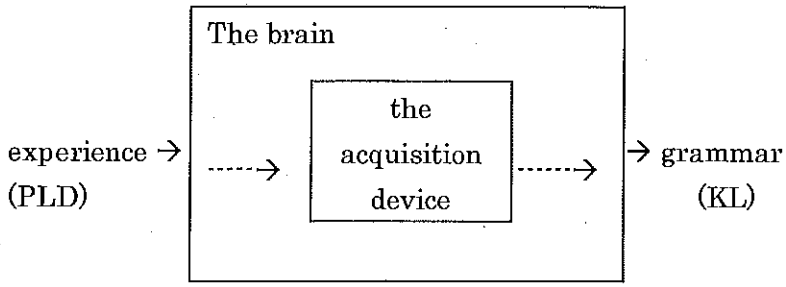
c. IQs are 18 or 19 points lower

d. repeat after me: bees => "bee" (cf. nose)

e. trouble producing the plural and past tense forms of novel words "Wug test"

2. What is and isn't among the (language) acquisition device (pp.182 – 190)

(11)



(p.183)

(12) a. It is not very clear exactly what are among PLD.

b. It is not very clear exactly what KL looks like.

c. It is not very clear exactly what (L)AD are.

2.1 View #1: AD specific to language (pp.183 - 187)

(13) (L)AD is *Universal Grammar*[3]

"Grammatical categories and principles that are common to all languages" (p.184)

(14) Why would a child think of grouping words into noun and verb classes?

(15) How would she know which words are nouns and which are verbs?

(16) (L)AD tells children what to do and what to look for.

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twin, adoption and linkage studies. *Language* 77, 647-723.

[2] Gopnik, Myrna and Martha Cargo. 1991. Familial aggregation of a developmental language disorder. *Cognition* 39, 1-50.

Ullman, Michael and Myrna Gopnik. 1999. Inflectional morphology in a family with inherited specific language impairment. *Applied Psycholinguistics* 20, 51-117.

New York Times (July 15, 2003)

[3] Pinker, Steven. 1994. *The Language Instinct*. Morrow & Co.

Crain, Stephen and Rosaland Thornton. 1998. Investigations in Universal Grammar. MIT Press.

(17) One possible scenario (pp.185-186) → HW13(C)

Bootstrapping

(L)AD tells children:

a. words referring to concrete things must be nouns
   eg., desk, chair, boy, etc.

b. notice functions of nouns in a sentence
   e.g. nouns can appear with *this/that: this desk, that boy, etc.*
   nouns can take the plural ending: desks, boys, chairs, ete
   nouns can be used as subjects and direct objects
   etc. eg., *That boy likes this desk.*

c. identify nouns by means of those functions in (17b)
   e.g., *This idea,*

(18) **Class Work 14-2**

Think of a possible scenario for identifying verbs.

(L)AD tells children:

a. words referring to _____ must be verbs

b. notice functions of verbs in a sentence
   e.g. verbs can ...

c. identify verbs by means of those functions in (18b)

(19) What is the system which combines words into a sentence?
(blueprints for sentences)
How could a child acquire the sentence-building system?

(20) (L)AD = UG tells children:

a. Words are grouped into pair.

b. Subjects are higher than direct objects. (pp.186-187)

etc.

(21) Evidence for (20b)?

2.2 View #2: Not just for language (pp.187 – 190)

(22) General cognitive tools in the brain are used for language acquisition.

(23) Mutual Exclusivity Assumption (Chapter 3)
I see two things. I know one is XXX. Mother said YYY, so the second object must be YYY. (see examples on p.188)

(24) Statistical learning

Children seem to have ability to note statistical correlations, and such ability is not necessarily restricted to language learning.

a. *is* + *Verb-ing* patterns prevail in English (children observe).

b. 18-month-olds prefer to listen to passage containing *is* + *Verb-ing* patterns rather than *can* + *Verb-ing* patterns.

(25) Which view is correct, LAD or AD?

(26) It depends on how we define "language".

(27) View 1

Language is "a highly complex formal system that is best described by abstract rules that have not counterparts in other area of cognition." (p.190)

=> LAD (at least some portion of it) is designated specifically for language.

(28) View 2

"language has to be understood in terms of its communicative function." (p.120)

=> multipurpose acquisition device

3. Learning about language (pp.190 – 196)

(29) There are a lot of language-specific patterns that children must learn. (p.191)

(30) a. morphological rules (and exceptions): plural, past tense, etc.

b. basic word order

c. question formation rules

etc.

(31) Well-known helpful learning procedure:

generalization

(32) Generalization gives children a powerful learning tool, and it is so powerful that it has the potential to go too far.

However,

(33) Children somehow avoid overgeneralization

(34) *The "Be Conservative" Law* (p.192)

Make "small" generalizations; don't overgeneralize.

(35) Children avoid producing word orders that they don't actually hear.

(36) Recall: big rule vs little rule (Chapter 4)

age 2: little rule (word order by each verb); age 4: big rule

However,

(37) Children are very creative in other respects of language use and hence sometimes over-generalize: *eated, breaked; sheeps, childs*, etc.

(38) Other examples of over-generalization

a. Can we play here for two whiles? (cf. for a while)

b. Didn't I draw this goodly? (cf. well)

c. Father: shoganai desho ('it can't be helped')
Boy: Shogu yo ('it can be!')

(39) Recall that parents do not correct children's grammatical mistake in a systematic way, and even if they try to correct grammatical mistakes, children usually do not understand.

(40) Then, how do children (who use overgeneralized forms) get back on track?

(41) *The Principle of Contrast* (p.195)[4]
Every two forms contrast in meaning.
(Or Blocking Principle)

(42) I _____ there yesterday.

(43) a. My rule tells me to fill "goed" in there.

b. People around me use "went" instead.

c. "goed" and "went" have the identical meaning (i.e. do not contrast in meaning). One of them has to go.

d. Let me stick to the way my community members do.

Therefore,

(44) Sometimes "Be Concervative" Law fails (i.e., children overgeneralize), but the (L)AD has a back-up.

(45) How many exposures to the adult form do children need before the transformation (e.g., from "goed" to "went") is complete?
Several hundred (according to one estimate: Chapter 2 Section 3).

4. Summary

(46) What are among abilities that make it possible to learn language?

(47) promising candidates (details yet to be explored)

a. ability to distinguish speech sounds

b. ability to produce speech sounds

c. ability to put speech sounds together to form words/morphemes

d. ability to learn the meaning of a word

e. ability to put words/morphemes together to build sentences

f. ability to see the world the way adults do (i.e. theory of mind)

g. ability to use linguistic clues to infer

h. ability to form generalizations and to make corrections

etc.

(48) Without (47), linguistic examples around you (i.e., PLD) are just noises.

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[4] Clark, Eve. 1987. The Principle of Contrast: A constraint on language acquisition. In

Appendix

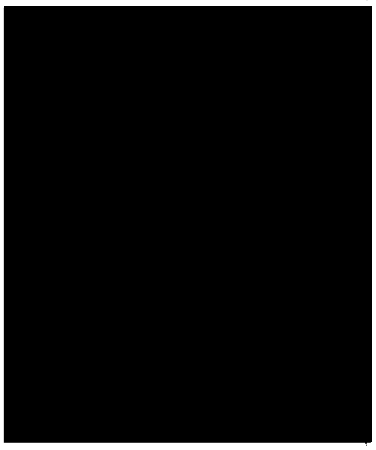
(A1) Critical Period hypothesis

(A2) Ethology

(A3) Konrad Lorenz (1903 – 1989)
Greylag goose
imprinting (from "shortly after birth" to "13 – 16 hours")

(A4) Psycholinguistics

(A5) Eric Lenneberg (1921 – 1975)
Critical period for human language acquisition



But,

(A6) When?

(A7) Other possibilities

a. input is not enough?

b. interference by the first (native) language?

c. critical period is true?

d. or all of them (more or less)?

B. MacWhinney (ed.) *Mechanisms of language acquisition.* Erlbaum, 1-34.

Some feedbacks to Qs ⑭

I thought word order is difficult to native children, because English word order is difficult for Japanese. [redacted]

＊It is known that children barely make word order mistakes in their native language. For instance, if there are three words, logical possibility of the order is six patterns, but it seems that English speaking children make no mistake.

big red balloons / *big balloons red / *red big balloons /
*red balloons big / *balloons red big / *balloons big red.

They are very conservative in this respect.

Is there any difference in children's abilities to tell each word from another depends on whether their parents pronounce words clearly or not so clearly? [redacted]

＊There seem to be two problems in this question. One is how to measure children' s ability tell a word from another. The second is how to evaluate whether the parents' pronunciation is "clear" or "not clear". As far as I can see, it seems very difficult to find any objective/scientific research on this issue.

Can any sounds made by mouth become speech sound of a human language? [redacted]

＊I do not think so. Look at IPA (International Phonetic Alphabet) chart where you can find many sounds used in human languages. However, you can easily imagine many sounds you can make with your mouth but which you cannot find in IPA.

In my opinion, imitation plays an important role in terms of learning pronunciation of a new foreign language. Is that the same for children too? [redacted]

＊In adult foreign language learning of pronunciation, we can say two things. Conscious try to imitate is necessary and helpful, but at the same time, it is sometimes very difficult to imitate (even if you have learned how to move you tongue and vocal tract to make the specific sounds). In child language acquisition, imitation (if there is such a thing actually) is unconscious and automatic. No child seems to be making efforts to imitate consciously, but all children acquire their native sounds.

[redacted]

[redacted]

I wonder how a deaf child gets language input. If a child's parents cannot use the sign language, is the child need to be trained by someone else? [redacted]
How much harder is language acquisition for children who are born deaf? [redacted]
＊Deaf children must be in an appropriate sign language community so that they can acquire the sign language (one of natural human languages) naturally as their native language. As for oral language, deaf children would need a special training.

How is the acquisition from a second language different from a first language? What are the major differences in the process of second language acquisition between adults and children? [redacted]
＊There are several: necessity of conscious effort (No in L1; Yes in L2), the final result (same for everyone in L1; huge diversity in L2 (someone is just very bad, and someone can be native-like)). If you are very young, however, it is not easy to define what is L1 and what is L2 for you, which varies drastically depending on different situations in different cases.

[redacted]