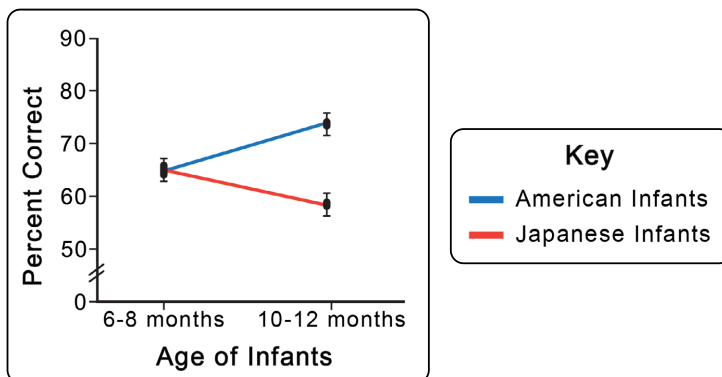
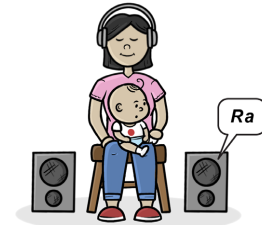


## TOPIC: LANGUAGE DEVELOPMENT

### Distinguishing Speech Sounds

- ◆ Research by Janet Werker in the 1980's demonstrated that:
  - When we are born, we can distinguish between \_\_\_\_\_ phonemes (even in non-native languages).
  - At ~12 months, we \_\_\_\_\_ this ability → get better at distinguishing phonemes in our native language.
- ◆ This has been replicated many times, including by Kuhl & colleagues in 2006:
  - The phonetic contrast “ra” / “la” exists in English, but not Japanese.
  - Sample: 32 American infants, 32 Japanese infants.
  - Method: Baby taught to turn their head to a target sound ( “la” or “ra”).



Kuhl, P. K., Stevens, E., Hayashi, A., Deguchi, T., Kiritani, S., & Iverson, P. (2006). Infants show a facilitation effect for native language phonetic perception between 6 and 12 months. *Developmental science*, 9(2), F13-F21. doi: [10.1111/j.1467-7687.2006.00468.x](https://doi.org/10.1111/j.1467-7687.2006.00468.x)

## PRACTICE

Which of the following correctly summarizes what we currently understand about infant's phoneme discrimination abilities?

- Young children are born with the ability to hear all phonemes.
- Over the first year of life, children get better at discriminating phonemes in their native language.
- Around 10-12 months, infants begin to lose the ability to discriminate phonemes in non-native languages.
- All of the above are correct.

## TOPIC: LANGUAGE DEVELOPMENT

### Language Milestones

◆ Language development has several general features:

1. Language development happens \_\_\_\_\_.
2. At all stages, *comprehension* skills develop \_\_\_\_\_ than production skills.
3. Grammatical errors are actually \_\_\_\_\_, and tend to result from over-applying rules.

Average Age	Productive Language Milestones
0-4 months	<b>Cooing</b> (vowel-sounds – <i>aaahh, oooh</i> ).
4-10 months	<b>Babbling</b> (Combining consonants and _____ – <i>da, ma, ba, ga</i> ).
10-18 months	Begins using single words (simple _____ and verbs).
18-24 months	<b>Telegraphic speech:</b> _____ sentences; consist of necessary content words (“Throw ball”).
24-36 months	Longer sentences. Start using articles, _____, and adjectives (ex: “Give me the donut”).
36-60 months	<b>Overregularization:</b> Applying regular grammatical rules to irregular verbs (ex: “I runned”). *Evidence that children don’t just _____ adult speech – they understand grammar and apply it.
60+ months	Typically have _____-like grammar skills. Sentence length and vocabulary grow rapidly.

### EXAMPLE

Using the letters in the box below, put the following language development milestones in order. For the milestone listed with an asterisk, write the approximate age when that happens below the timeline.

Birth → \_\_\_\_ → \_\_\_\_ → \_\_\_\_ → \_\_\_\_ → \_\_\_\_ → 5 years (60 months)

- a) Overregularization errors are common.
- b) Babbling.
- c) Telegraphic speech.
- d) First words.\*
- e) Cooing.

## **TOPIC: LANGUAGE DEVELOPMENT**

### **PRACTICE**

Which of the following is an example of overregularization?

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- |                |                      |
|----------------|----------------------|
| a) Two mouses. | c) Water bottle red. |
| b) Dogs.       | d) Angry I'm.        |

### **PRACTICE**

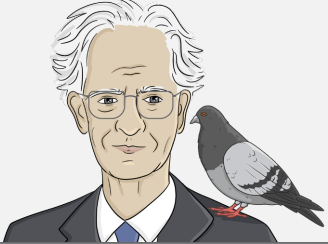
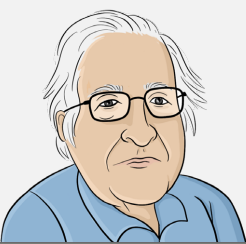

Which developmental stage occurs in infancy and involves combining consonant and vowel sounds.

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- |              |                        |
|--------------|------------------------|
| a) Cooing.   | c) Telegraphic speech. |
| b) Babbling. | d) Phoneme detection.  |

## TOPIC: LANGUAGE DEVELOPMENT

### Theories of Language Development

	Behaviorist Theory	Nativist Theory	Interactionist Theory
			
	<b>B.F. Skinner</b>	<b>Noam Chomsky</b>	<b>Jerome Bruner</b>
Overview	Language learned through <b>operant conditioning</b> .  Children _____ phrases they are reinforced for saying.	Humans are born with an _____ <b>universal grammar</b> .  Proposes a <b>sensitive period</b> for language acquisition (____-puberty).	Infants are born with an innate capacity for language, _____ social factors influence language learning.
Support	Adults sometimes positively reinforce desired or _____ language use.	Newborn phoneme discrimination.  Children do _____ need specific types of interactions to learn language.  Research supports sensitive periods.	<b>Infant-directed</b> _____ – makes pronunciation, syntax, and word segmentation clearer.  Nicaraguan sign language – developed by deaf children in the 1980's – continually being _____ today.
Critiques	Can't account for _____ utterances, learning without reinforcement, or overregularization.  Can't account for the _____ of language learning.	Underestimates the role of _____ interactions.  Hard to find direct evidence of a universal grammar.	Generally accepted, but some critiques similar to Behaviorist and Nativist

## **TOPIC: LANGUAGE DEVELOPMENT**

### **EXAMPLE**

Which of the following statements is consistent with the behaviorist understanding of language acquisition?

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- a) Language develops as an interplay between inherent biology and social conditioning.
- b) Humans are predisposed to learning languages as children.
- c) Language development is the result of positive reinforcement from caregivers.
- d) Children will learn language as long as they are exposed to it, regardless of reinforcement.

### **PRACTICE**

The idea of a sensitive period for language learning was first introduced as a part of which theory of language acquisition?

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- |                        |                             |
|------------------------|-----------------------------|
| a) Behaviorist theory. | c) Interactionalist theory. |
| b) Nativist theory.    | d) Operant theory.          |