Teaching Resources Chapter 3

**Links**

• [*basic – intermediate*]There are several sites that provide information about behavioral methods used to study the capabilities of infants. These clips include examples of infants participating in particular methods

Habituation study (Saffran Lab): http://www.waisman.wisc.edu/infantlearning/Participation\_files/Language.mpg

Head Turn Preference Procedure (Mintz Lab):

http://www.youtube.com/watch?v=mZAuZ—Yeqo

Head Turn Preference Procedure (Werker Lab):

http://www.youtube.com/watch?v=dAU5CAl1U6M&feature=related

Intermodal Preferential Looking/Looking while Listening Paradigm (Fernald Lab):

http://www.youtube.com/watch?v=verqCmPrnY8

These sites provide information more generally about how the method works:

Overviews of several methods (Lidz Lab):

http://ling.umd.edu/labs/acquisition/?page=methods

Overviews of several methods (Gomez Lab):

http://web.arizona.edu/~tigger/index\_files/studyinfo.htm

Intermodal Preferential Looking/Looking while Listening Paradigm (Naigles Lab): http://www.cll.uconn.edu/ipl.html

• [*intermediate*]The role of socioeconomic status on language development (as well as other aspects of development) is one that has great societal importance. Here are a few links summarizing research findings in this area:

http://www.apa.org/pi/ses/resources/publications/factsheet-education.aspx

http://www.ncrel.org/sdrs/areas/issues/students/earlycld/ea7lk5.htm

http://www.hcplive.com/articles/Nature-vs-Nurture-How-Socioeconomic-Status-Affects-Cognitive-Development

**Activities for Students**

• Discover that you have in fact tuned to your native language! Go to the UCLA archives (http://archive.phonetics.ucla.edu/main2.htm) and choose a language you are unfamiliar with. In the archives, you will find word lists and be able to listen to native speakers producing those words. Using the word list, find sounds that are transcribed with different symbols: that’s the way you can tell that the sounds really are phonetically different. Then, listen to a native speaker say words containing those sounds. Try to find two minimal word pairs (that is, a pair of words that differ in terms of just one sound) where you CAN hear the differences between the sounds and two minimal word pairs where you CANNOT hear the difference.

• Across languages, Infant Directed Speech (IDS) shares many common features, particularly with respect to intonation and emotional tone. To hear these differences, watch the movie *Babies,* which follows the development of four babies from different cultures from birth to around age 12 months (see http://www.imdb.com/title/tt1020938/ for details about the movie). Identify at least 3 ways in which IDS is similar across the languages/cultures shown and 1 way in which it is different.

• Language is critical for communicating some kinds of information, but other kinds of information can be conveyed quite well through non-linguistic and extra-linguistic means. To see how this works, watch this episode of the fake soap opera ¿*Que Hora Es?* (http://www.youtube.com/watch?v=WckCw\_-7e3M). Identify two specific messages that are communicated outside of the language being used. Identify a limitation of relying solely on non-linguistic and extra-linguistic elements. Provide examples from the film clip.

**Online Movies**

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| Movie Name | Access | Description | Time |
| An Experiment by Anne Fernald: Efficiency in Processing Language | http://www.youtube.com/watch?v=I7HN5LJOc-w&feature=relmfu | Focuses on the methods used by Anne Fernald to investigate children’s speed of language processing. Comes from the larger program “Mind in the Making – The Essential Life Skills Every Child Needs” by Ellen Gallinsky | 1:54 |
| Anne Fernald: Why Efficiency in Processing Language is Important | http://www.youtube.com/watch?v=verqCmPrnY8 | A short interview with Anne Fernald about her research on the speed of word identification. Shows clips of children in a looking-while-listening paradigm. Comes from the larger program “Mind in the Making – The Essential Life Skills Every Child Needs” by Ellen Gallinsky | 2:25 |
| How Babies Learn Language | http://www.youtube.com/watch?v=mZAuZ--Yeqo | Short documentary from USC featuring the research of Toben Mintz on infants’ ability to use vowel harmony for word segmentation. Shows examples of babies in the head-turn preference procedure, Mintz, and a student of Mintz’s discussing the research. | 9:19 |
| How your baby goes from Da Da to Daddy. | http://www.msnbc.msn.com/id/15051687 | Brief news piece about Pat Kuhl’s work looking at ERP changes in baby brains as a function of shifts in phonological perception | 2:22 |
| Naigles Lab example | Page:  http://www.cll.uconn.edu/ipl.html  Noun Bias Video:  http://www.cll.uconn.edu/documents/NounBiasPIffenClip.mov | Webpage from the Naigles lab about the IPL method. Video shows the stimuli for a noun bias study. | Less than a minute |
| Saffran Lab example | Page: http://www.waisman.wisc.edu/infantlearning/Participation.html  Video: http://www.waisman.wisc.edu/infantlearning/Participation\_files/Language.mpg | Webpage from the Saffran lab. About half way down is a link to a video of an infant word segmentation study | Less than a minute |
| The Charlie Rose Show: Dr. Patricia Kuhl Describes MEG | http://www.youtube.com/watch?v=3zNlkL4DMtU | Pat Kuhl explains how an MEG machine works and shows clips of an infant inside one. | 1:25 |
| The Linguistic Genius of Babies | http://www.ted.com/talks/lang/eng/patricia\_kuhl\_the\_linguistic\_genius\_of\_babies.html | A TED talk by Patricia Kuhl talking about her work on early infant speech perception, including bits on the statistics in the input, the importance of live input, and neuroimaging work. | 10:18 |
| Werker’s Sound Discrimination Research | http://www.youtube.com/watch?v=dAU5CAl1U6M&feature=related | Janet Werker explains her findings about the changes in infant speech perception. Contains good footage and explanation of the conditioned head turn procedure. | 5:27 |
| Why Do We Talk? | Part 1:  http://www.youtube.com/watch?v=PZatrvNDOiE  Part 2:  http://www.youtube.com/watch?v=dsaqD9FVRsM  Part 3:  http://www.youtube.com/watch?v=oimnxkEj4ns  Part 4:  http://www.youtube.com/watch?v=UTbI-G42JoY  Part 5:  http://www.youtube.com/watch?v=pmsQJfyVrr0  Part 6:  http://www.youtube.com/watch?v=kqs-jKSdj8Y | BBC/Horizon documentary on language acquisition, with a general emphasis on speech. Broken down on youtube in sections:  Part 1: Overview; Roy’s Speechome project  Part 2: The larynx across species; language and brain damage  Part 3: language and brain damage, cont.; neuroanatomy of language; newborn speech perception with ERP; language savant Christopher  Part 4: Language savant Christopher, cont.; Interview with Chomsky; wild child Oxana, raised by dogs; language (bird song) with no experience in Finches  Part 5: Bird song, cont.; genetic components of language – KE family.  Part 6: Evolutionary origins of speech, conclusions | Each part, ~9:45 |

**Movies on CD**

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| 1.2  Child at 14 months | On Existing Student CD | Rex at 14 months. Rex is a monolingual English-learning child playing with toys and his parents. Illustrates well:  • Comprehension even without clear production  • May say /k/ to represent “cookie”  • Parent-child interactions and social intentions | 1:06 |
| 1.4  Child at 3 years | On Existing Student CD | Mimi at 3 years. Mimi is a monolingual English-learning child playing with blocks. Illustrates well:  • More advanced (but still not adult-like) phonology  • Adult-child interactions  • Appropriate level syntactic abilities | :53 |
| 3.1  Child at 11 months | On Existing Student CD | Rex at 11 months. Rex is a monolingual English-learning child playing with toys and his parents. Illustrates well:  • Parent child interactions  • Joint attention (and the lack of it!)  • Use of pointing (mostly instrumental) | 3:53 |
| 3.2  Child at 14 months | On Existing Student CD | Rex at 14 months. Rex is a monolingual English-learning child playing with toys and his parents. Illustrates well:  • Requesting gesture  • Parent child interactions | :34 |
| 4.1  Child at 6 months | On Existing Student CD | Kaylana at 6 months. Kaylana is a monolingual English-learning child playing with toys. Illustrates well  • Reaching behaviors (not pointing)  • Limited social abilities with adults  • Vocalizations of various sorts – all pre-babbling sorts | 2:32 |
| 4.2  Child at 11 months | On Existing Student CD | Rex at 11 months. Rex is a monolingual English-learning child playing with toys and his parents. Illustrates well:  • Learning by listening (watch him practice pronouncing /b/ after his parents talk about balls).  • Pointing  • Communicative vocalizing (not language) | 1:37 |
| 4.3  Child at 14 months | On Existing Student CD  (note – this appears to be an extended version of the same clip in 1.2) | Rex at 14 months. Rex is a monolingual English-learning child playing with toys and his parents. Illustrates well:  • Following simple directions  • May say /k/ to represent “cookie”  • Parent-child interactions and social intentions | 4:09 |
| 5.1  Child at 17 months | On Existing Student CD | Rex at 17 months. Rex is a monolingual English-learning child playing with toys and his parents. Illustrates well:  • Parent-child interactions  • Phonological development (he has difficulty saying “Pooh” and several non-adult like pronunciations)  • Parental support for word learning | 2:31 |
| 5.4  Illustration of the Intermodal Preferential Looking paradigm | On Existing Student CD | This clip from Letty Naigle’s lab shows a child participating in an IPL training trial. It gives a good flavor of what children’s eye movements look like. | :45 |
| 6.1  Child at 20 months | On Existing Student CD | Rex at 20 months. Rex is a monolingual English-learning child playing with toys and his parents. Illustrates well:  • Parent-child interactions  • Parental modeling of sounds and child’s imitation of them  • Some recognizable words | 1:20 |

**Quicktime Movies**

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| Infant directed speech: Father and 8-month-old | Quicktime movie file | A brief interaction between an 8-month-old child and her father. The father shows excellent use of Infant directed speech. | 0:24 |

**Sample Test Questions**

1. The importance of communication for the development of language is that:
   1. virtually all of language development can be explained in terms of communicative needs.
   2. children appear to require a live communicative context to motive their learning.
   3. communication plays no role in the process of language development.
   4. young children have no need to use language to communicate.
2. Joint attention is:
   1. a social-communicative act in which a person pays attention to transitions, or joints, in an event
   2. a social-communicative act in which a person asks another person to join them in an activity
   3. a social-communicative act in which a person jointly attends to both an object and another person
   4. a formal computational process required for attending to multiple stimuli
3. Which of the following is NOT an example of early intention reading?
   1. an infant monitors a speaker’s gaze to infer the object they are labeling.
   2. an infant infers the probable goal of an adult by watching them attempt an action.
   3. an infant expresses her intentions by crying when she is hungry.
   4. all of the above are examples of early intention reading.
4. Children’s early use of gesture is:
   1. largely unrelated to children’s language development.
   2. an impediment to children’s language development because it allows for communication outside of language.
   3. only important for children learning sign languages.
   4. predictive of children’s language abilities and development.
5. To investigate whether or not an infant understood the meanings of words she did not yet understand, a researcher showed the infant pairs of objects on the screen and monitored her eye-gaze as one of the objects was labeled. This method is called:
   1. the conditioned head-turn procedure.
   2.  the intermodal preferential looking paradigm.
   3. the habituation method.
   4. the Near-infrared spectroscopy method.
6. Which of the following constitutes true evidence that infants can hear and learn about sounds in-utero?
   1. the fact that 6 weeks after birth, infants prefer to listen to specific passages of poetry they were read in-utero.
   2. the fact that infants cry when they hear loud sounds after birth.
   3. the fact that by 12 months of age, infants have tuned their perception to their native language.
   4. the fact that babies are born with fully developed ears.
7. Categorical Perception of phonemes refers to the fact that:
   1. Linguists can categorize all of the perceived sounds into phonemes.
   2. we hear sounds as belonging to a single phoneme category, even though the acoustic differences between sounds are along a continuous dimension.
   3. the phoneme /b/ has a shorter voice onset time (VOT) than the phoneme /p/ has.
   4. infants tune their perceptual system to categorize phonemes over the first year of life.
8. Infants are called “universal listeners” because:
   1. they spend so much time listening to everything going on around them.
   2. they categorically perceive phonemes.
   3. they can discriminate among a large – perhaps universal – set of phones.
   4. they possess a universal grammar (UG) which allows them to process what they listen to into a grammar.
9. Infants who tune their perceptual system to their native language phonemes more quickly:
   1. are not able to make categorical distinctions among phonemes.
   2. are also more likely to retain the ability to perceive non-native phoneme contrasts.
   3. show later difficulties with non-auditory aspects of language development.
   4. show more rapid language development in the word learning stage.
10. Studies of infants’ statistical learning abilities have shown that:
    1. infants calculate simple t-tests to determine where word boundaries are.
    2. infants can keep track of statistical properties of their input, but they require hours (if not days) of exposure to make useful inferences.
    3. infants can use the statistical properties of their input to help them find words and also higher level elements such as grammatical categories.
    4. infants cannot calculate statistics.
11. Which of the following provides evidence that, at least in part, children’s language development depends on their general cognitive skills?
    1. the fact that the left hemisphere of the brain is largely responsible for storing and representing language.
    2. the fact that children require input from a real live human being to be successful in language development.
    3. the fact that the size of children’s phonological memory predicts their vocabulary size.
    4. the fact that there are disorders that can specifically target language ability.
12. If a very young child has early problems with a low-level aspect of language, such as processing individual sounds in a sequence, her troubles may compound over time and lead to difficulties with higher level aspects of language, such as syntax. This phenomenon is called:
    1. a developmental retrogression.
    2. a developmental progression.
    3. a developmental cascade.
    4. a developmental sequence.
13. Which of the following are true about Infant Directed Speech (IDS)?
    1. IDS contains more prototypical vowels than Adult Directed Speech.
    2. IDS carries consistent emotional messages across different languages.
    3. Infants prefer to listen to IDS over Adult Directed Speech.
    4. all of the above are true statements about IDS.
14. Which type of feedback about their grammar usage are children likely to get from their parents?
    1. Direct feedback: when children say things incorrectly (e.g. “I holded the doll”) parents tell the child they said it wrong (or, they said it silly) and tell them the correct way to say the sentence.
    2. Indirect feedback: when children say things incorrectly (e.g. “I holded the doll”) parents are more likely to ask for clarification and when children say things correctly, (e.g. “I held the doll”) parents are more likely to repeat the sentence back to the child.
    3. Children do not receive any explicit feedback about their language use.
    4. Both A and B describe common types of feedback children receive about their language use.
15. Compared to children raised in high Socioeconomic households, children from low Socioeconomic backgrounds:
    1. hear substantially less language input and have substantially smaller vocabularies at age 3 years.
    2. hear substantially less language input but have equivalent sized vocabularies at age 3 years.
    3. hear approximately the same amount of language input but have substantially smaller vocabularies at age 3 years.
    4. hear approximately the same amount of language input and have equivalent sized vocabularies at age 3 years.
16. Why do children have difficulty learning language by watching people on a video? Discuss the aspects of input that are critical for language development that are present in videos and those that are absent.
17. Describe the changes in infants’ perception of speech sound over the first year of life. To what extent do you think these changes reflect domain-specific or domain-general learning processes?
18. Identify two ways in which the input to individual children learning the same language can differ in their language development. How do these differences influence the course of language development?